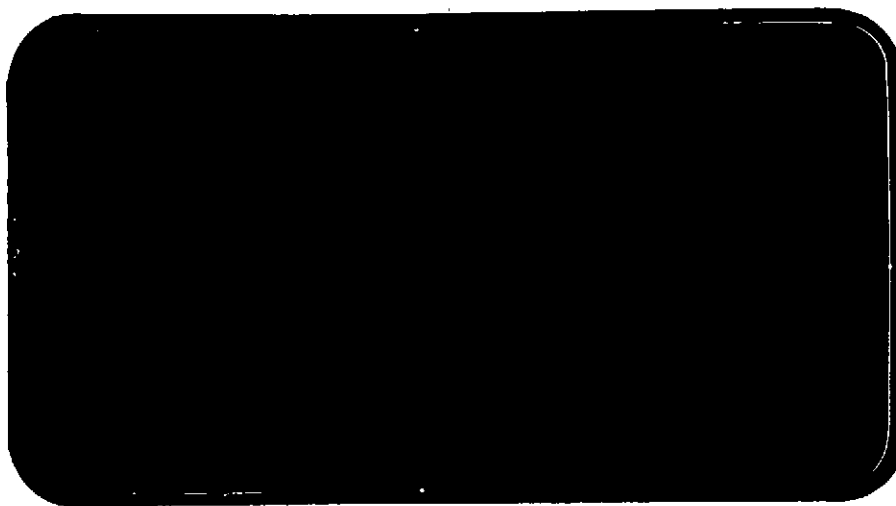




NASA CR-134103

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



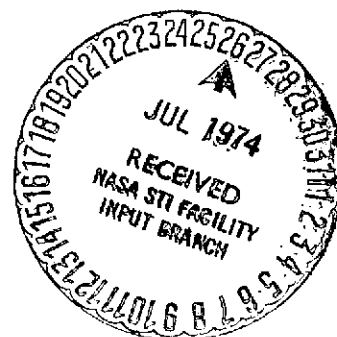
(NASA-CR-134103) RESULTS OF TESTS IN  
THE NASA/LARC 31-INCH CPHT ON AN  
0.010-SCALE MODEL (32-OT) OF THE SPACE  
SHUTTLE CONFIGURATION 3 TO (Chrysler  
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

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SPACE DIVISION



CHRYSLER  
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May, 1974

DMS-DR-2137  
NASA-CR-134,103

RESULTS OF TESTS IN THE NASA/LaRC 31-INCH CFHT  
ON AN 0.010-SCALE MODEL (32-OT)  
OF THE SPACE SHUTTLE CONFIGURATION 3  
TO DETERMINE THE RCS JET FLOWFIELD INTERACTION EFFECTS  
ON AERODYNAMIC CHARACTERISTICS (IA60/OA105)  
VOLUME 1 OF 2

By

D. E. Thornton  
Shuttle Aero Sciences  
Rockwell International Space Division

Prepared under NASA Contract Number NAS9-13247

By

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: LaRC 31-inch CFHT-108 and 109  
NASA Series Number: IA60/OA105  
Model Number: 32-0T  
Test Dates: IA60: 14 through 20 Feb. 1974  
OA105: 20 through 22 February 1974

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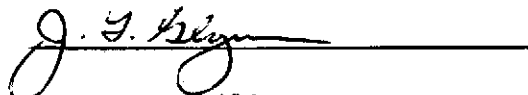
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Data Operations

This document has been reviewed and is approved for release.

N. D. Kemp  
Data Management Services



Chrysler Corporation Space Division assumes no responsibility for  
the data presented other than display characteristics.

RESULTS OF TESTS IN THE NASA/LaRC 31-INCH CFHT  
ON AN 0.010-SCALE MODEL (32-OT)  
OF THE SPACE SHUTTLE CONFIGURATION 3  
TO DETERMINE THE RCS JET FLOWFIELD INTERACTION EFFECTS  
ON AERODYNAMIC CHARACTERISTICS (IA60/OA105)  
By D. E. Thornton, Rockwell International Space Division

ABSTRACT

Tests were conducted in the NASA Langley Research Center 31-inch continuous Flow Hypersonic Wind Tunnel from 14 February to 22 February 1974, to determine RCS jet interaction effect on the hypersonic aerodynamic and stability and control characteristics prior to RTLS abort separation. The model used was an 0.010-scale replica of the Space Shuttle Vehicle Configuration 3. Hypersonic stability data were obtained from tests at Mach 10.3 and dynamic pressure of 150 psf for the integrated Orbiter and external tank and the Orbiter alone. RCS modes of pitch, yaw, and roll at free flight dynamic pressure simulation of 7, 20, and 50 psf were investigated. The effects of speedbrake, bodyflap, elevon, and aileron deflections were also investigated.

This report is published in two volumes. Volume 1 contains data from test IA60 and Volume 2 contains OA105 data.



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Note: See next page for Schedule of Coefficients Plotted.

## INDEX OF DATA FIGURES (CONCLUDED)

### SCHEDULE OF COEFFICIENTS PLOTTED:

- (A) KND, KLMD, DCN, DCLM, CN, CLM versus ALPHA
- (B) KNU, KLMU, KBLU, KM,BLU, KYN,LU, DCN, DCLM, DCBL,  
DCYN, CN, CLM, CBL, CYN versus ALPHA
- (C) KBLU/D, KM,BL2, KYN,L2, DCBL, DCLM, DCYN, CBL, CLM  
CYN versus ALPHA
- (D) KYN, KM,YN, KBL,YN, KY, DCYN, DCLM, DCBL, DCY,  
CYN, CLM, CBL, CY versus ALPHA
- (E) KBLD, KM,BLD, KYN,LD, DCBL, DCLM, DCYN, CBL, CLM,  
CYN versus ALPHA

NOMENCLATURE  
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$a$		speed of sound; m/sec, ft/sec
$C_p$	CP	pressure coefficient; $(p_1 - p_\infty)/q$
$M$	MACH	Mach number; $V/a$
$p$		pressure; $N/m^2$ , psf
$q$	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$ , $N/m^2$ , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
$V$		velocity; m/sec, ft/sec
$\alpha$	ALPHA	angle of attack, degrees
$\beta$	BETA	angle of sideslip, degrees
$\psi$	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
$\rho$		mass density; $kg/m^3$ , slugs/ft <sup>3</sup>

Reference & C.G. Definitions

$A_b$		base area; $m^2$ , $ft^2$
$b$	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l_{REF}}{c}$	LREF	reference length or wing mean aerodynamic chord; m, ft
$S$	SREF	wing area or reference area; $m^2$ , $ft^2$
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

$b$	base
$l$	local
$s$	static conditions
$t$	total conditions
$\infty$	free stream

# NOMENCLATURE (Continued)

## Body-Axis System

<u>SYMBOL</u>	<u>SAD3AC SYMBOL</u>	<u>DEFINITION</u>
$C_N$	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
$C_A$	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_{A_b}$	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
$C_{A_f}$	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
$C_m$	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

## Stability-Axis System

$C_L$	CL	lift coefficient; $\frac{\text{lift}}{qS}$
$C_D$	CD	drag coefficient; $\frac{\text{drag}}{qS}$
$C_{D_b}$	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
$C_{D_f}$	CDF	forebody drag coefficient; $C_D - C_{D_b}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_m$	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; $C_L/C_D$
L/D <sub>f</sub>	L/DF	lift to forebody drag ratio; $C_L/C_{D_f}$



# NOMENCLATURE (Continued)

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
$\Delta C_A$	DCA	incremental axial-force Coefficient
$\Delta C_l$	DCBL	incremental rolling-moment coefficient
$\Delta C_m$	DCLM	incremental pitching-moment coefficient
$\Delta C_N$	DCN	incremental normal-force coefficient
$\Delta C_n$	DCYN	incremental yawing-moment coefficient
$\Delta C_Y$	DCY	incremental side-force coefficient
$K_{l_{u/D}}$	KBLU/D	amplification factor on rolling moment due to up and down firing coupled jets
$K_{l_D}$	KBLD	amplification factor on rolling moment due to down firing jets
$K_{l_u}$	KBLU	amplification factor on rolling moment due to up firing jets
$K_{l,n}$	KBL,YN	cross-coupling factor on rolling moment due to yaw jets
$K_{m_D}$	KLMD	amplification factor on pitching moment due to down firing jets
$K_{m_u}$	KLMU	amplification factor on pitching moment due to up firing jets
$K_{m,l_{u/D}}$	KM,BL2	cross-coupling factor on pitching moment due to up and down firing coupled roll jets
$K_{m,l_D}$	KM,BLD	cross-coupling factor on pitching moment due to down firing roll jets
$K_{m,l_u}$	KM,BLU	cross-coupling factor on pitching moment due to up firing roll jets
$K_{m,n}$	KM,YN	cross-coupling factor on pitching moment due to yaw jets

# NOMENCLATURE (Concluded)

$K_{N_D}$	KND	amplification factor on normal force due to down firing jet
$K_{N_u}$	KNU	amplification factor on normal force due to up firing jet
$K_{n,l_{u/D}}$	KYN,L2	cross-coupling factor on yawing moment due to up and down firing coupled roll jets
$K_{n,l_D}$	KYN,LD	cross-coupling factor on yawing moment due to down firing roll jets
$K_{n,l_u}$	KYN,LU	cross-coupling factor on yawing moment due to up firing roll jets
$K_n$	KYN	amplification factor on yawing moment
$K_Y$	KY	amplification factor on side force
RCS		reaction control system
RTLS		return to launch site
$\delta_a$	AILRON	aileron deflection angle, degrees
$\delta_e$	ELEVON	elevon deflection angle, degrees
$\delta_f$	BDFLAP	body flap deflection angle, degrees
$\delta_R$	RUDDER	rudder deflection angle, degrees
$\delta_{SB}$	SPDBRK	speed brake deflection angle, degrees
$P_c$	PC RCS	model RCS air supply system plenum chamber pressure, psi

## CONFIGURATIONS INVESTIGATED

Two configurations were tested. These were the second stage ascent configuration consisting of Orbiter with External Tank attached, and the RTLS configuration (Orbiter alone). The model used for this test was an 0.010-scale replica of Configuration 3 of the Space Shuttle Orbiter and External Tank.

For convenience the configuration nomenclature was abbreviated as follows: The symbols are defined in the Model Dimensional Data.

$$O = B_{19} C_7 E_{23} F_5 M_6 N_{39} R_5 V_7 W_{107}$$

$$OT = B_{19} C_7 E_{23} F_5 M_6 N_{39} R_5 V_7 W_{107} T_{10}$$

$T_{10}$  included the attach structure and protruberances  $FL_7$ ,  $FL_8$ ,  $PT_{16}$ ,  $PT_{17}$ ,  $PT_{18}$ ,  $AT_{21}$ ,  $AT_{22}$ , and  $AT_{23}$ .

Control surface effectiveness was investigated with elevon deflections of  $+15^\circ$  and  $-20^\circ$ , aileron deflections of  $+5^\circ$ ,  $+10^\circ$ ,  $+15^\circ$ , and  $-15^\circ$ , rudder deflections of  $+20^\circ$ , bodyflap deflections of  $+13.75^\circ$  and  $-14.25^\circ$ , and a speedbrake deflection of  $55^\circ$ .

## INSTRUMENTATION

The LaRC 0.75-inch six-component 2019C internal balance was used for this test program.

No model base pressures or balance chamber pressures were measured during this test. The RCS supply pressure was set and monitored at the plenum chambers between the two RCS nozzle blocks.

## TEST FACILITY DESCRIPTION

The Mach 10 nozzle of the Langley Continuous Flow Hypersonic Tunnel is designed to operate at stagnation pressures of 15 to 150 atmospheres at temperatures up to 1960°R. Air is preheated electrically by passing through a multi-tube heater. The nozzle has a 31-inch square test section which incorporates a moveable second minimum. Continuous operation is achieved by passing the air through a series of compressors. Additional information on this facility is given in NASA TM X-1130 entitled, "Characteristics of Major Active Wind Tunnels at the Langley Research Center", by William T. Schaefer, Jr.

## DATA REDUCTION

Aerodynamic forces and moments were reduced to coefficient form using the following reference dimensions:

$$\text{Reference area (S)} = 0.269 \text{ ft}^2 \text{ (38.736 in}^2\text{)}$$

Reference Lengths

$$\bar{c} = 4.748 \text{ in (C}_m\text{)}$$

$$b = 9.367 \text{ in (C}_m, C_\ell\text{)}$$

$$L_{\text{REF}} = 12.90 \text{ in (X}_{\text{c.p.}}\text{)}$$

The moments were reduced about a moment reference center located as follows:

Orbiter Only

$$\text{Orbiter station 10.767 at } Y_0 = 0.00 \text{ and } Z_0 = 3.75$$

Integrated Vehicle

$$X_T = \text{ET station 17.258 (7.368 inches aft of orbiter nose)}$$

$$Y_T = 0.00$$

$$Z_T = 6.336 \text{ (.994 inches below orbiter FRL)}$$

Standard LaRC data reduction techniques were used for reducing the data to coefficient form.

TABLE I.

[illegible]

RCS OFF

### DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 2-20-74

DATA SET IDENTIFIER	CONFIGURATION	SCHED.		CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )										
		$\alpha$	$\beta$	$q_{\infty}$	$P_c$	$S_e$	$S_a$		$S_{b5}$	$S_{b6}$	RUN NO.								
RH101F	OT N51	A	0	150	OFF	15	0	1	0	0	3								
02F	OT N52	~	~	~	~	0	0	1	0	0	32								
03F	OT N51					-20	0	1	0	0	30								
04F	OT N49 N52					0	15°L -15°R	1	0	0	12								
05F	OT N49 N52					0	15°L +15°R	1	0	0	47								
06F	OT N49 N52					0	5°L -5°R	1	0	0	50								
07F	OT N49 N52					-20	10°L -10°R	1	0	0	53								
08F	OT N49 N52	Y	Y	Y	Y	0	0	1	0	55	42								



TABLE II - Continued

RCS ON

TEST: IA60

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 2-20-74

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\theta_{00}$	$P_c$	$\delta_e$	$\delta_a$		$\delta_{bf}$	$\delta_{sb}$	RUN No.							
RH) 01N	OT N51	A	0	150	179	15	0		0	0	4							
02N	OT N51	A	0	150	504	15	0		0	0	5							
03N	OT N49N50	A	0	150	167	15	0		0	0	6							
04N	OT N49N50	A	0	150	469	15	0		0	0	7							
05N	OT N49N52	A	0	150	158	15	0		0	0	8							
06N	OT N49N52	A	0	150	446	15	0		0	0	9							
07N	OT N52	A	0	150	157	15	0		0	0	10							
08N	OT N52	A	0	150	446	15	0		0	0	11							
09N	OT N52	A	0	150	158	0	0		0	0	23							
10N	OT N52	A	0	150	446	0	0		0	0	24							
11N	OT N49N52	A	0	150	158	0	0		0	0	20							
12N	OT N49N52	A	0	150	446	0	0		0	0	21							
13N	OT N49	A	0	150	158	0	0		0	0	26							
14N	OT N49	A	0	150	446	0	0		0	0	27							
15N	OT N51	A	0	150	179	0	0		0	0	28							
16N	OT N51	A	0	150	504	0	0		0	0	29							
17N	OT N51	A	0	150	179	-20	0		0	0	31							
18N	OT N51	A	0	150	504	-20	0		0	0	32							
19N	OT N49N50	A	0	150	167	-20	0		0	0	34							
20N	OT N49N50	A	0	150	469	-20	0		0	0	35							

$\alpha$  OR  $\beta$

SCHEDULES

A = -10° TO +20° IN 5° INCREMENTS

TEST RUN NUMBERS

$\alpha$  OR  $\beta$   
SCHEDULES

A =  $-10^\circ$  TO  $+60^\circ$  IN  $5^\circ$  INCREMENTS

TEST RUN NUMBERS

TABLE II - Continued

RES ON

TEST: 1A60		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 2-20-74						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\delta_{\alpha}$	$\delta_{\beta}$	$\delta_{\alpha}$	$\delta_{\beta}$		$\delta_{\alpha}$	$\delta_{\beta}$	RUN NO.							
<u>RH1</u> 21N	OT N 49	A	0	150	158	-20	0		0	0	36							
22N	OT N 49	A	0	150	446	-20	0		0	0	37							
23N	OT N 49 NS2	A	0	150	158	-20	0		0	0	38							
24N	OT N 49 NS2	A	0	150	446	-20	0		0	0	39							
25N	OT NS2	A	0	150	158	-20	0		0	0	40							
26N	OT NS2	A	0	150	446	-20	0		0	0	41							
27N	OT N 49 NS2	A	0	150	158	0	0		0	55	43							
28N	OT N 49 NS2	A	0	150	446	0	0		0	55	44							
29N	OT NS2	A	0	150	158	0	0		0	55	45							
30N	OT NS2	A	0	150	446	0	0		0	55	46							
31N	OT N 49 NS2	A	0	150	158	0	-15L +15R		0	0	48							
32N	OT N 49 NS2	A	0	150	446	0	-15L +15R		0	0	49							
33N	OT N 49 NS2	A	0	150	158	0	+5L -5R		0	0	51							
34N	OT N 49 NS2	A	0	150	446	0	+5L -5R		0	0	52							
35N	OT N 49 NS2	A	0	150	158	-20	+10L -10R		0	0	54							
36N	OT N 49 NS2	A	0	150	446	-20	+10L -10R		0	0	55							
37N	OT N 49 NS2	A	0	150	158	0	+5L -15R		0	0	13							
38N	OT N 49 NS2	A	0	150	446	0			1	1	14							
39N	OT N 49 NS0	A	0	150	167	0			1	1	15							
Y 40N	OT N 49 NS0	A	0	150	769	0	↓		↓	↓	17							

TEST RUN NUMBERS

$\alpha$  OR  $\beta$   
SCHEDULES

TEST RUN NUMBERS

$\alpha$  OR  $\beta$   
SCHEDULES

PCS ON

[illegible]

52 274

19

TABLE II - Continued

RCS ON

TEST: 0A105		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 2/21						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$q_{\infty}$	$P_c$	$S_c$	$S_a$		$S_{bf}$	$S_{sb}$	$S_r$	RUN NO.						
RH201H	0 NSI	A	0	150	72	0	0		13.75	55	0	4						
02N	0 NSI	A	0	150	179	0	0		13.15	55	0	5						
03N	0 NSI	A	0	150	504	0	0		13.75	55	0	6						
04N	0 N49NS2	A	0	150	62	0	0		13.75	55	0	7						
05N	0 N49NS2	A	0	150	158	0	0		13.75	55	0	8						
06N	0 N49NS2	A	0	150	446	0	0		13.75	55	0	9						
07N	0 N49	A	0	150	62	0	0		13.75	55	0	10						
08N	0 N49	A	0	150	158	0	0		13.75	55	0	11						
09N	0 N49	A	0	150	446	0	0		13.75	55	0	12						
10N	0 NS2	A	0	150	62	0	0		13.75	55	0	13						
11N	0 NS2	A	0	150	158	0	0		13.75	55	0	14						
12N	0 NS2	A	0	150	446	0	0		13.75	55	0	15						
13N	0 NS2	A	0	150	158	0	0		-14.25	55	0	17						
14N	0 NS2	A	0	150	446	0	0		-14.25	55	0	18						
15N	0 N49	A	0	150	158	0	0		-14.25	55	0	19						
16N	0 N49	A	0	150	446	0	0		-14.25	55	0	20						
17N	0 N49NS2	A	0	150	158	0	0		-14.25	55	0	21						
18N	0 N49NS2	A	0	150	446	0	0		-14.25	55	0	22						
19N	0 NSI	A	0	150	179	0	0		14.1	55	0	23						
20N	0 NSI	A	0	150	504	0	0		13.75	55	0	24						

$\alpha$  OR  $\beta$

SCHEDULES

A = -10° - 70° + 75° S<sup>2</sup> INCLINATION

B = -50° - 20° 0° + 20° + 50°

$\alpha$  OR  $\beta$   
SCHEDULES

A =  $-10^\circ$  TO  $+25^\circ$  IN  $5^\circ$  INCREMENTS  
B =  $-50^\circ$ ,  $-20^\circ$ ,  $0^\circ$ ,  $+20^\circ$ ,  $+50^\circ$

TEST RUN NUMBERS

TABLE II - Concluded

RCS ON

TEST: 0A105		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 2/22						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\delta_{\infty}$	$P_c$	$\delta_e$	$\delta_a$		$\delta_{bf}$	$\delta_{sb}$	$\delta_r$	Run No.						
RH2 21N	0 NS1	A	0	150	504	0	0		0	SS	0	26						
22N	0 N49 NS2	A	0	150	446	0	0		0	SS	0	27						
23N	0 N49 NS2	0	B	150	446	0	0		0	SS	0	29						
24N	0 N49	A	0	150	446	0	0		0	SS	0	30						
25N	0 N49	A	0	150	158	0	0		0	SS	0	32						
26N	0 NS2	A	0	150	446	0	0		0	SS	0	33						
27N	0 NS2	A	0	150	446	-20	0		0	SS	0	35						
28N	0 N49	A	0	150	446	-20	0		0	SS	0	36						
29N	0 N49 NS2	A	0	150	446	-20	0		0	SS	0	37						
30N	0 NS1	A	0	150	504	-20	0		0	SS	0	38						
31N	0 N49 NS2	A	0	150	158	0	+15L -15R		0	SS	0	40						
32N	0 N49 NS2	A	0	150	158	0	+15L -15R		0	SS	0	42						
33N	0 N49 NS2	A	0	150	158	0	0		0	0	+20	44						
34N	0 N49 NS2	A	0	150	158	0	0		0	0	-20	46						
35N	0 NS1	25	0	150	C	0	0		0	SS	0	50						
36N	0 N49 NS0	25	0	150	C	0	0		0	SS	0	49						
37N	0 N49 NS0	25	0	75	C	0	0		0	SS	0	48						
38N	0 NS1	25	0	75	C	0	0		0	SS	0	47						

$\alpha$  OR  $\beta$

SCHEDULES

A = -10° TO +25° IN 5° INCREMENTS

B = 5" - 1", 0", +1", +5"

Pc =

C = 5, 10, 20, 200, 500, 5000

TEST RUN NUMBERS

$\alpha$  OR  $\beta$   
SCHEDULES

A =  $-10^\circ$  TO  $+25^\circ$  IN  $5^\circ$  INCREMENTS  
B =  $5^\circ$ ,  $-1^\circ$ ,  $0^\circ$ ,  $+1^\circ$ ,  $+5^\circ$

PC =  
C = 0, 10, 200, 200, 500, 500

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>21</sub>

GENERAL DESCRIPTION: Attach structure, same as AT<sub>11</sub> except only the  
forward attach structure.

MODEL SCALE: 0.010

DRAWING NO.: VL72-000089

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Orbiter to Tank		
Location- In.		
X <sub>T</sub>	<u>382.000</u>	<u>3.820</u>
X <sub>T</sub>	<u>1133.000</u>	<u>11.330</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>22</sub>GENERAL DESCRIPTION: Right rear, Orbiter to External Tank

MODEL SCALE: 0.010

DRAWING NO.: VL72-000088B + VL72-000089 NOTE: Use first drawing for location and second drawing for detail of struts

DIMENSIONS: FULL SCALE MODEL SCALE

## First strut

Diameter - In. (Approx.) 8.0 0.08

Aft Location, In. (Attach to Orbiter)

 $X_O$  1307.0 13.070 $X_T$  2058.0 20.580Fwd Location - In. (Approx.)  
(Attach to Orbiter) $X_O$  1108.0 11.080 $X_T$  1859 18.59NOTE: This strut is the mirror image  
strut AT<sub>23</sub>

## Second Strut

Diameter, In. (Approx.) 8.0 0.08

Location - In.

 $X_O$  1307.0 13.070 $X_T$  2058 20.580

NOTE: This is a cross brace strut.



TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>23</sub>

GENERAL DESCRIPTION: Left rear, Orbiter to External Tank

MODEL SCALE: 0.010

DRAWING NO.: VL72-000088B & VL72-000089

NOTE: Use first drawing for location  
and second drawing for detail  
of struts

DIMENSIONS:

Forward attach points:

Orbiter to Tank

No. of struts

1

1

Diameter - In. (Approx)

8.0

0.08

Location - In.

$X_O$

1307

13.070

$X_T$

2058

20.580

Aft attach points:

Location - In. (Approx.)

$X_O$

1108

11.080

$X_T$

1859

18.590

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : BODY - B<sub>10</sub>

GENERAL DESCRIPTION : Fuselage, Configuration 3 per Rockwell  
Lines VL70-000139B.

NOTE: Identical to B<sub>17</sub> except forebody.

MODEL SCALE: 0.010

DRAWING NUMBER : VL70-000139B

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - In.	<u>1290.3</u>	<u>12.903</u>
Max Width - In.	<u>267.6</u>	<u>2.676</u>
Max Depth - In.	<u>244.5</u>	<u>2.445</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - Ft <sup>2</sup>	<u>                    </u>	<u>                    </u>
Max. Cross-Sectional	<u>386.67</u>	<u>0.0387</u>
Planform	<u>                    </u>	<u>                    </u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>                    </u>	<u>                    </u>

TABLE III. -MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : CANOPY - C<sub>7</sub>

GENERAL DESCRIPTION : Configuration 3 per Rockwell Lines VL70-000139.

MODEL SCALE: 0.010

DRAWING NUMBER VL70-000139

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length ( $X_0=433$ to $X_0=578$ ) In.F.S.	<u>145</u>	<u>1.450</u>
Max Width	<u></u>	<u></u>
Max Depth	<u></u>	<u></u>
Fineness Ratio	<u></u>	<u></u>
Area	<u></u>	<u></u>
Max. Cross-Sectional	<u></u>	<u></u>
Planform	<u></u>	<u></u>
Wetted	<u></u>	<u></u>
Base	<u></u>	<u></u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ELEVON - E<sub>23</sub>GENERAL DESCRIPTION: Configuration 3 per W<sub>107</sub> Rockwell Lines DrawingVL70-000139B. Data for (1) of (2) sides.MODEL SCALE: 0.010DRAWING NUMBER: VL70-000139B

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - Ft <sup>2</sup>	<u>205.52</u>	<u>0.0206</u>
Span (equivalent) - In.	<u>353.34</u>	<u>3.533</u>
Inb'd equivalent chord - In.	<u>114.78</u>	<u>1.148</u>
Outb'd equivalent chord - In.	<u>55.00</u>	<u>0.550</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.208</u>	<u>0.208</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Trailing Edge	<u>10.24</u>	<u>10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line) - Ft <sup>3</sup>	<u>1548.07</u>	<u>0.00155</u>

TABLE III.-MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : BODY FLAP- F<sub>5</sub>

GENERAL DESCRIPTION : 3 Configuration per Rockwell Lines VL70-000139

\_\_\_\_\_

\_\_\_\_\_

MODEL SCALE: 0.010

DRAWING NUMBER VL70-000139

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - In.	<u>84.70</u>	<u>0.847</u>
Max Width - In.	<u>267.6</u>	<u>2.676</u>
Max Depth	_____	_____
Fineness Ratio	_____	_____
Area - Ft <sup>2</sup>	_____	_____
Max. Cross-Sectional	_____	_____
Planform	<u>142.5</u>	<u>0.0143</u>
Wetted	_____	_____
Base	<u>38.0958</u>	<u>0.0038</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: FEEDLINE - FL-7

GENERAL DESCRIPTION: LOX feedline between ET and Orbiter

MODEL SCALE: 0.010

DRAWING NO.: VL78-000050

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Centerline at:	$X_T$	<u>2081.0</u>	<u>20.810</u>
	$Y_T$	<u>70.0</u>	<u>0.70</u>
	$X_O$	<u>1330.0</u>	<u>13.300</u>
	$Y_O$	<u>70.0</u>	<u>0.700</u>
Diameter		<u>18.5</u>	<u>0.185</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: FEEDLINE - FL<sub>8</sub>

GENERAL DESCRIPTION: LH<sub>2</sub> feedline between ET and Orbiter

MODEL SCALE: 0.010

DRAWING NUMBER: VL78-000050

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Centerline at:	X <sub>T</sub>	<u>2081.0</u>	<u>20.810</u>
	Y <sub>T</sub>	<u>- 70.0</u>	<u>- 0.700</u>
	X <sub>O</sub>	<u>1330.0</u>	<u>13.300</u>
	Y <sub>O</sub>	<u>- 70.0</u>	<u>- 0.700</u>
Diameter		<u>18.5</u>	<u>0.185</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : OMS POD - M<sub>6</sub>

GENERAL DESCRIPTION : Basic configuration 3A OMS pods with non-  
metric RCS engine housing and nozzles. Same geometry as M<sub>4</sub>

MODEL SCALE: 0.010

DRAWING NUMBER : VL70-000139B

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - In.	<u>346.0</u>	<u>3.460</u>
Max Width - In.	<u>108.0</u>	<u>1.080</u>
Max Depth - In.	<u>113.0</u>	<u>1.130</u>
Fineness Ratio	<u>          </u>	<u>          </u>
Area	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>          </u>	<u>          </u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>
Station of aft end of RCS nozzle block	<u>1560.0</u>	<u>15.600</u>



TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: MPS NOZZLES - N<sub>39</sub>GENERAL DESCRIPTION: Configuration 3A MPS NozzlesMODEL SCALE: 0.010

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit	<u>94.000</u>	<u>0.940</u>
Throat		
Inlet		
Area - ft <sup>2</sup>		
Exit	<u>48.193</u>	<u>0.0048</u>
Throat		
Gimbal Point (Station) - In.		
Upper Nozzle		
X		
Y		
Z		
Lower Nozzles		
X	<u>1462.0</u>	<u>14.620</u>
Y	<u>53.000</u>	<u>0.530</u>
Z	<u>342.7</u>	<u>3.427</u>
Null Position - Deg.		
Upper Nozzle		
Pitch		
Yaw		
Lower Nozzle		
Pitch		
Yaw		

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RCS NOZZLE - N<sub>49</sub>GENERAL DESCRIPTION: RCS nozzle providing left-hand pitch-down control to simulate return to launch site (RTLS)

MODEL SCALE: 0.010

DRAWING NO.: SS-A01160-19

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Flight dynamic pressure simulation - PSF	<u>20</u>	<u>20</u>
Cant angle - Deg.		
Aft	<u>12</u>	<u>12</u>
Outboard	<u>20</u>	<u>20</u>
Diameter - In.		
Exit	<u>14.10</u>	<u>0.141</u>
Throat	<u>6.70</u>	<u>0.0670</u>
Area - In <sup>2</sup>		
Exit	<u>156.14</u>	<u>0.015614</u>
Throat	<u>35.25</u>	<u>0.003525</u>
Area ratio	<u>4.430</u>	<u>4.430</u>
No. of Nozzle	<u>2</u>	<u>2</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RCS Nozzles - N<sub>50</sub>

GENERAL DESCRIPTION: RCS Nozzle providing right-hand pitch-down control to simulate return to launch site (RTLIS).

MODEL SCALE: 0.010

DRAWING NO.: SS-A01160-20

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Flight dynamic pressure simulation - PSF	<u>20</u>	<u>20</u>
Cant angle - deg.		
Aft	<u>12</u>	<u>12</u>
Outboard	<u>20</u>	<u>20</u>
Diameter - In.		
Exit	<u>14.10</u>	<u>0.141</u>
Throat	<u>6.70</u>	<u>0.0670</u>
Area - In. <sup>2</sup>		
Exit	<u>15.614</u>	<u>0.015614</u>
Throat	<u>35.25</u>	<u>0.003525</u>
Area Ratio	<u>4.430</u>	<u>4.430</u>
No. of Nozzles	<u>2</u>	<u>2</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RCS NOZZLES - N<sub>51</sub>

GENERAL DESCRIPTION: RCS Nozzle providing left-hand yaw control to  
simulate return to launch site (RTLS).

MODEL SCALE: 0.010

DRAWING NO.: SS-A01160-11

DIMENSIONS:

MODEL SCALE

Flight dynamic pressure simulation- PSF

20

Cant angle - Deg.

Aft

0

Outboard

0

Diameter - In.

Exit

0.141

Throat

0.0670

Area - In.<sup>2</sup>

Exit

0.015614

Throat

0.003525

Area ratio

4.430

No. of nozzles

4

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RCS NOZZLE - N<sub>52</sub>

GENERAL DESCRIPTION: RCS Nozzle providing right-hand pitch-up control to simulate return to launch site (RTLS).

MODEL SCALE: 0.010

DRAWING NO.: SS-A01160-12

DIMENSIONS:

	<u>MODEL SCALE</u>
Flight dynamic pressure simulation - PSF	<u>20</u>
Cant angle- deg.	
Aft	<u>0</u>
Outboard	<u>0</u>
Diameter - In.	
Exit	<u>0.141</u>
Throat	<u>0.0670</u>
Area - In. <sup>2</sup>	
Exit	<u>0.015614</u>
Throat	<u>0.003525</u>
Area ratio	<u>4.430</u>
No. of nozzles	<u>2</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT<sub>16</sub>

GENERAL DESCRIPTION: LOX vent line fairing

MODEL SCALE: 0.010

DRAWING NO.: VL78-000031A

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at $X_T$	<u>322.0</u>	<u>3.210</u>
$Y_T$	<u>0.0</u>	<u>0.0</u>
Trailing edge at $X_T$	<u>955.0</u>	<u>9.55</u>
$Y_T$	<u>70.0</u>	<u>0.70</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE- PT<sub>17</sub>

GENERAL DESCRIPTION: LOX feedline fairing

MODEL SCALE: 0.010

DRAWING NO.: VL78-000031A

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X <sub>T</sub>	<u>955.0</u>	<u>9.55</u>
	Y <sub>T</sub>	<u>70.0</u>	<u>0.70</u>
Trailing edge at:	X <sub>T</sub>	<u>2058.0</u>	<u>20.58</u>
	Y <sub>T</sub>	<u>70.0</u>	<u>0.70</u>

TABLE III.- MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT<sub>18</sub>

GENERAL DESCRIPTION: LH<sub>2</sub> vent line fairing

MODEL SCALE: 0.010

DRAWING NO.: VL78-000031A

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X <sub>T</sub>	<u>947.0</u>	<u>9.47</u>
	Y <sub>T</sub>	<u>- 70.0</u>	<u>- 0.70</u>
Trailing edge at:	X <sub>T</sub>	<u>2058.0</u>	<u>20.58</u>
	Y <sub>T</sub>	<u>- 70.0</u>	<u>- 0.700</u>



TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RUDDER - R<sub>5</sub>GENERAL DESCRIPTION: 2A, 3, 3A and 140A/B configurationsMODEL SCALE: 0.010DRAWING NUMBER: VL70-000146A, VL70-000095, VL70-000139

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - Ft <sup>2</sup>	<u>106.38</u>	<u>0.011</u>
Span (equivalent) - In.	<u>201.0</u>	<u>2.010</u>
Inb'd equivalent chord - In.	<u>91.585</u>	<u>0.916</u>
Outb'd equivalent chord - In.	<u>50.833</u>	<u>0.508</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line) - Ft <sup>3</sup>	<u>526.13</u>	<u>0.00053</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : EXTERNAL TANK - T<sub>10</sub>

GENERAL DESCRIPTION : External Oxygen-Hydrogen Tank, 3 configuration,  
per Rockwell Lines drawing VL78-000041 and VL72-000088

MODEL SCALE: 0.010

DRAWING NUMBER: VL72-000088, VL78-000041

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (Nose @ $X_T = 309$ )	<u>1865</u>	<u>18.65</u>
Max Width - In.	<u>324</u>	<u>3.24</u>
Max Depth	<u>--</u>	<u>          </u>
Fineness Ratio	<u>5.75617</u>	<u>5.75617</u>
Area $\text{Ft}^2$	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>572.555</u>	<u>0.0573</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>
W.P. of tank centerline ( $X_T$ ) In.	<u>400.0</u>	<u>4.000</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VERTICAL - V<sub>7</sub>GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.NOTE: Same as V<sub>7</sub>, but with manipulator housing removed.MODEL SCALE: 0.010DRAWING NUMBER: VL70-000139

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
TOTAL DATA		
Area (Theo) - Ft <sup>2</sup>		
Planform	<u>425.92</u>	<u>0.0426</u>
Span (Theo) - In.	<u>315.72</u>	<u>3.157</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep-Back Angles, Degrees.		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.249</u>	<u>26.249</u>
0.25 Element Line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>2.685</u>
Tip (Theo) WP	<u>108.47</u>	<u>1.085</u>
MAC	<u>199.81</u>	<u>1.998</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>14.635</u>
W.P. of .25 MAC	<u>635.522</u>	<u>6.355</u>
B.L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section		
Leading Wedge Angle - Deg.	<u>10.000</u>	<u>10.000</u>
Trailing Wedge Angle - Deg.	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius	<u>2.0</u>	<u>0.02</u>
Void Area - Ft <sup>2</sup>	<u>13.17</u>	<u>0.0013</u>
Blanketed Area	<u>0.00</u>	<u>0.00</u>

TABLE III. - MODEL DIMENSIONAL DATA - Concluded.

MODEL COMPONENT: WING-W<sub>107</sub>GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139BNOTE: Same as W<sub>103</sub>, except cuff, airfoil and incidence angle.MODEL SCALE: 0.010

TEST NO.

DWG. NO. VL70-000139BDIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATAArea (Theo.)  $\text{Ft}^2$ 

Planform

2690.00.269

Span (Theo) In.

936.689.367

Aspect Ratio

2.2652.265

Rate of Taper

1.1771.177

Taper Ratio

0.2000.200

Dihedral Angle, degrees

3.5003.500

Incidence Angle, degrees

0.5000.500

Aerodynamic Twist, degrees

+ 3.000+ 3.000

Sweep Back Angles, degrees

45.00045.000

Leading Edge

10.2410.24

Trailing Edge

35.20935.209

0.25 Element Line

## Chords:

Root (Theo) B.P.O.O.

689.246.892

Tip, (Theo) B.P.

137.851.379

MAC

474.814.748

Fus. Sta. of .25 MAC

1136.8911.368

W.P. of .25 MAC

299.202.992

B.L. of .25 MAC

182.131.821EXPOSED DATAArea (Theo)  $\text{Ft}^2$ 1752.290.1752

Span, (Theo) In. BP108

720.687.207

Aspect Ratio

2.0582.058

Taper Ratio

0.24510.2451

## Chords

Root BP108

562.405.624Tip  $1.00 \frac{b}{2}$ 137.851.379

MAC

393.033.930

Fus. Sta. of .25 MAC

1185.3111.853

W.P. of .25 MAC

300.203.002

B.L. of .25 MAC

251.762.518

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root  $\frac{b}{2}$  =0.100.10Tip  $\frac{b}{2}$  =0.120.12

Data for (1) of (2) Sides

Leading Edge Cuff

Planform Area  $\text{Ft}^2$ 118.3330.0118

Leading Edge Intersects Fus M. L. @ Sta

500.05.000

Leading Edge Intersects Wing @ Sta

1083.410.834

**Notes:**

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

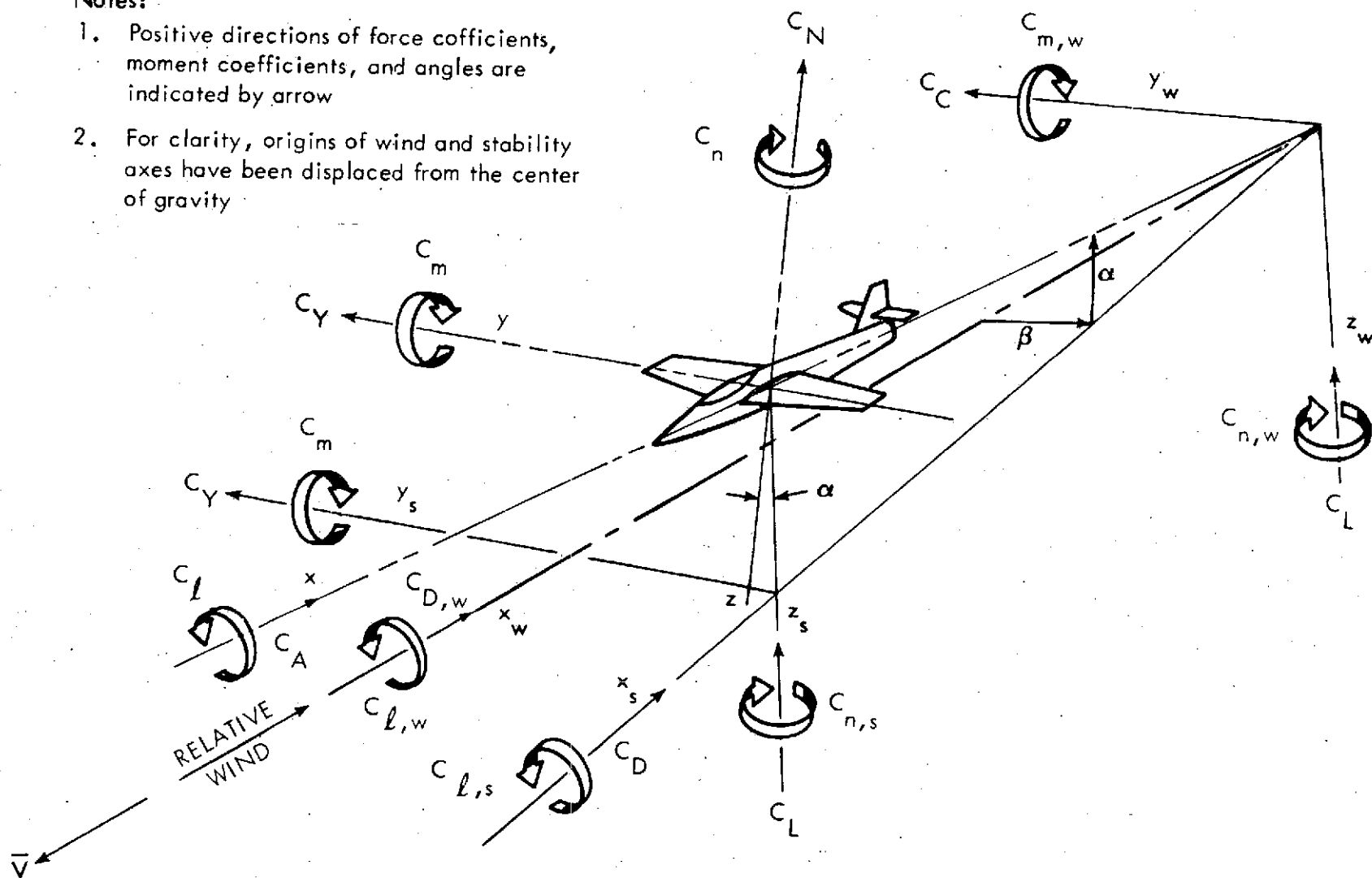
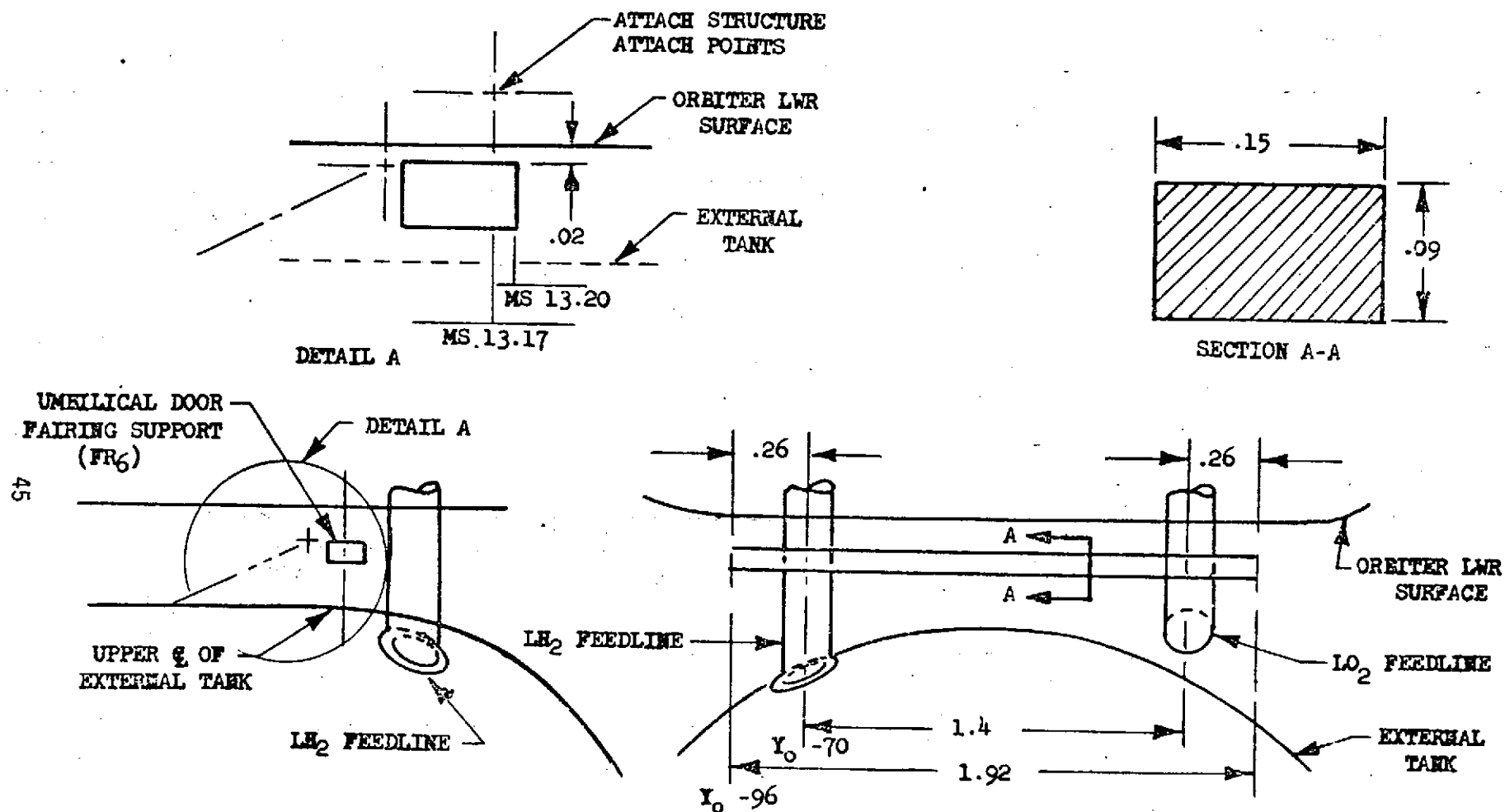


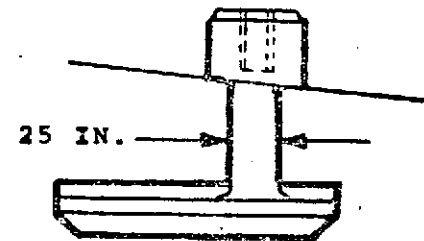
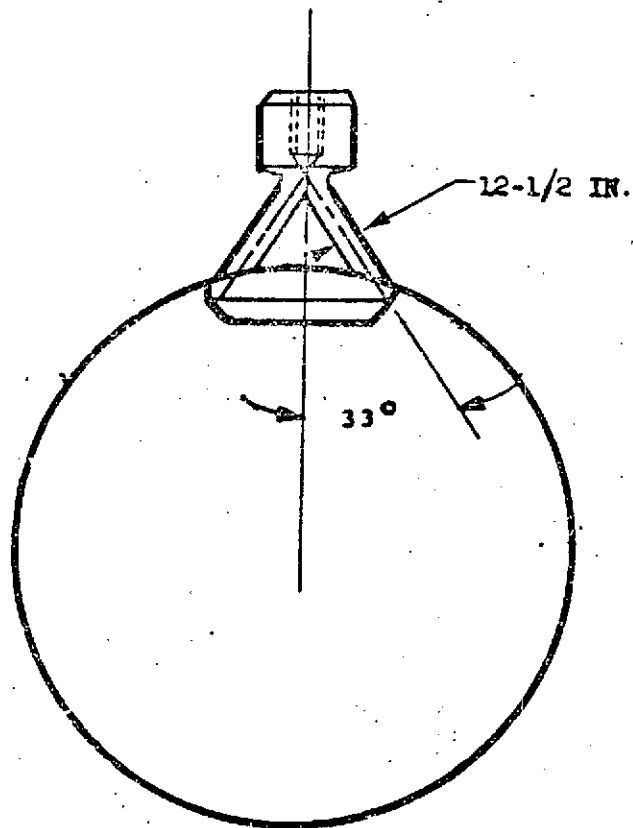
Figure 1. - Axis systems.



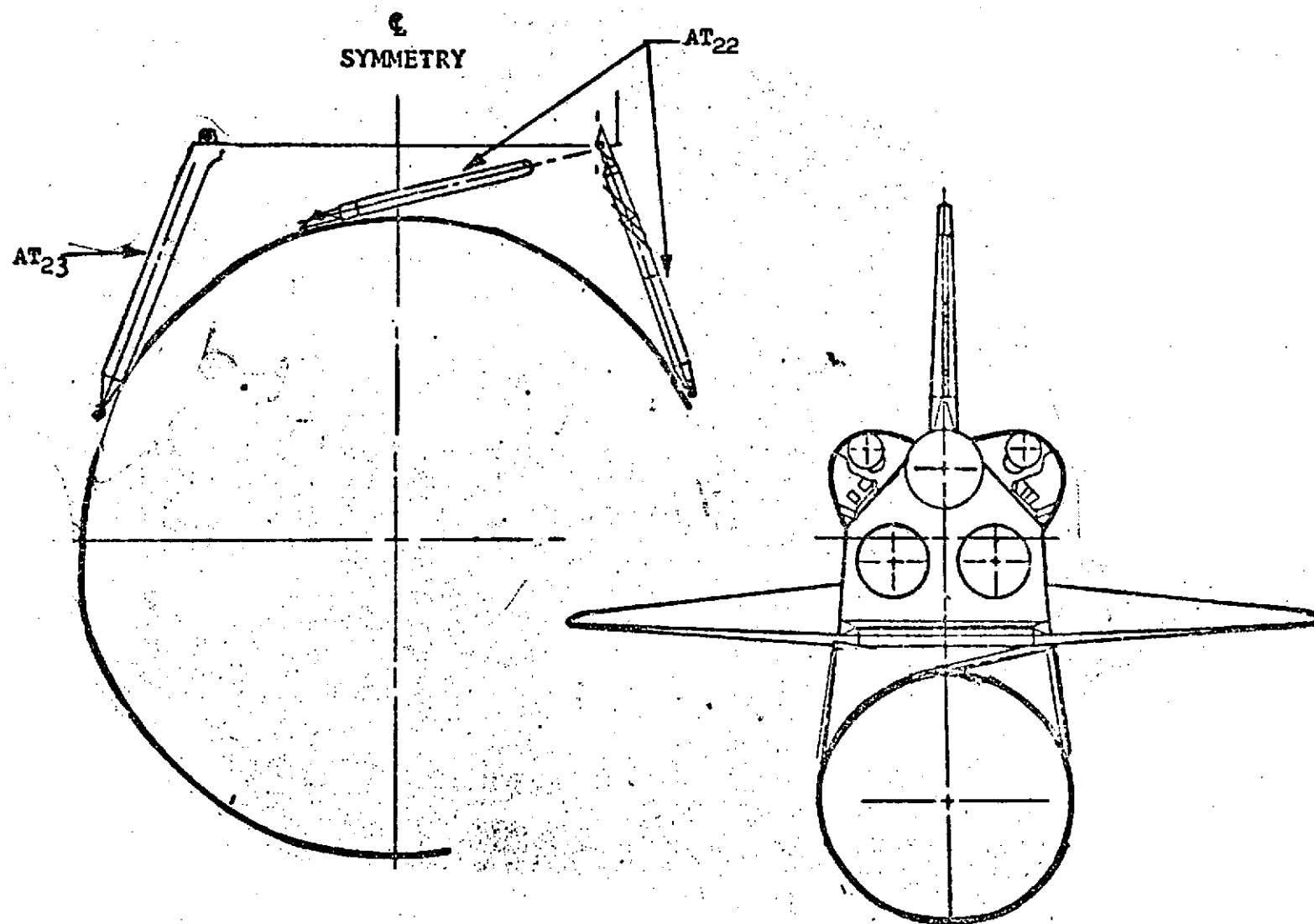
NOTE: ALL DIMENSIONS ARE APPROXIMATE  
AND IN INCHES

a. Orbiter umbilical door fairing support (FR<sub>6</sub>) and LO<sub>2</sub>(FL<sub>7</sub>) and LH<sub>2</sub>(FL<sub>8</sub>) Feedlines

Figure 2. - Model Sketches.



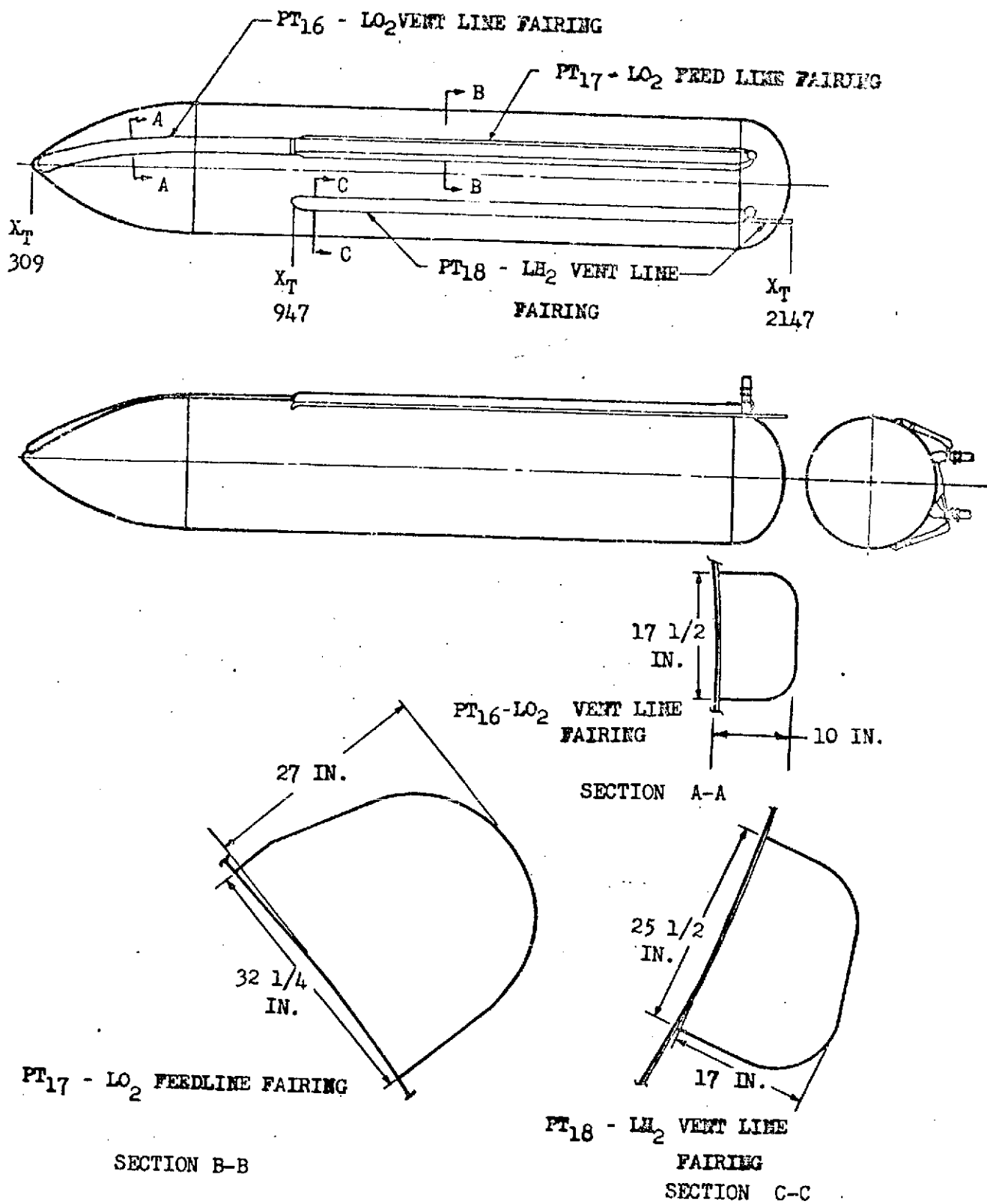
b. Forward attachment of the external tank to the orbiter (AT<sub>21</sub>)  
Figure 2. - Continued.



c. Aft attachment of external tank to orbiter (AT<sub>22,23</sub>)

Figure 2. - Continued.





d. External tank protuberance (PT<sub>16</sub>, PT<sub>17</sub>, PT<sub>18</sub>)

Figure 2. - Concluded.

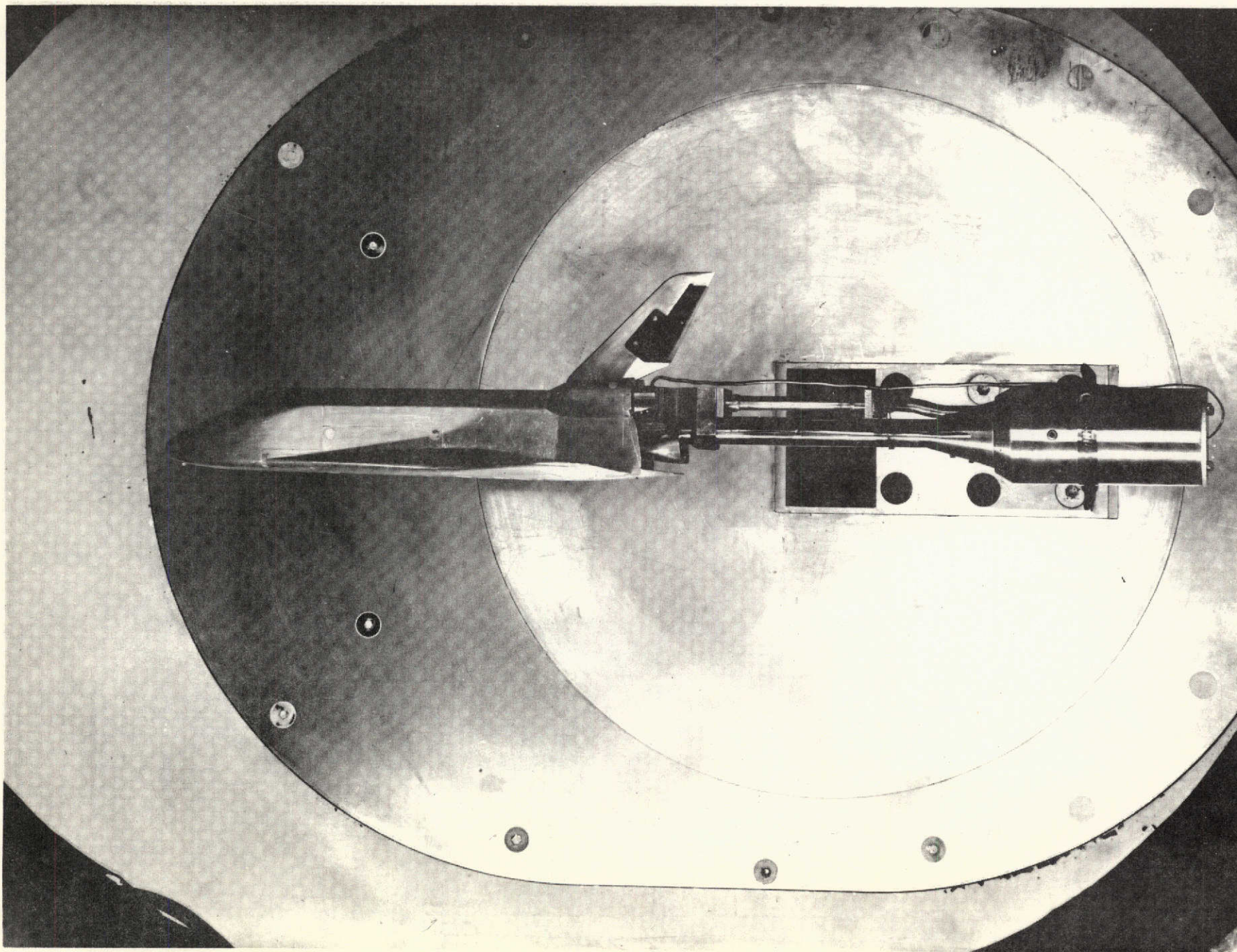


Figure 3. - Model installation photograph.

## DATA FIGURES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1020)	IA-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN 469.000	-20.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1042)	IA-60 CFHT108 MODEL 32-OT (O T)N49N50 PITCH DWN 469.000	.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1004)	IA-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN 469.000	15.000	.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3690 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9910 INCHES
						SCALE	.0100 SCALE

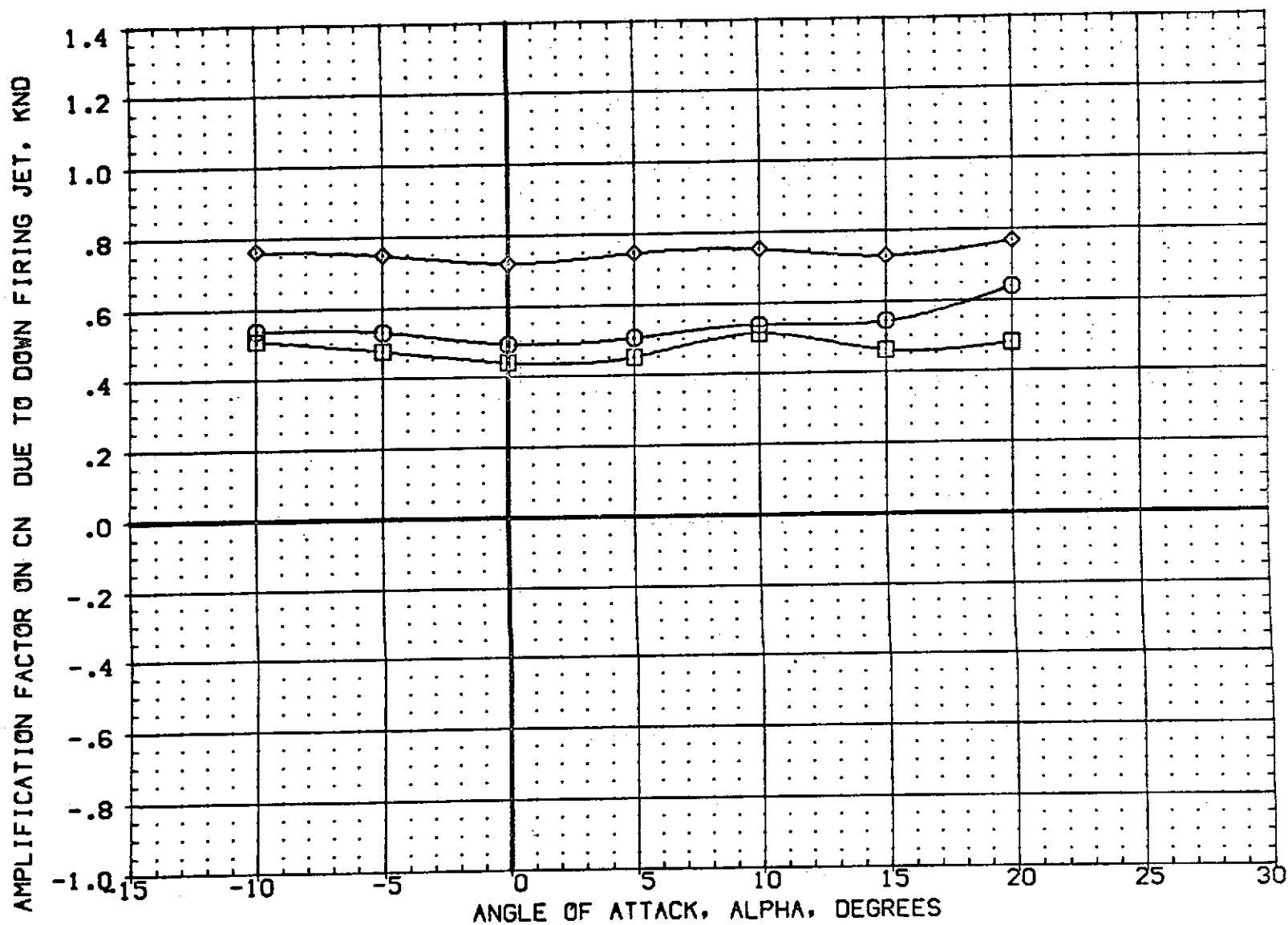


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1020)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	-20.000	.000	.000	SREF	39.7360	SQ.IN.
(CH1042)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1004)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMRP	7.3590	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

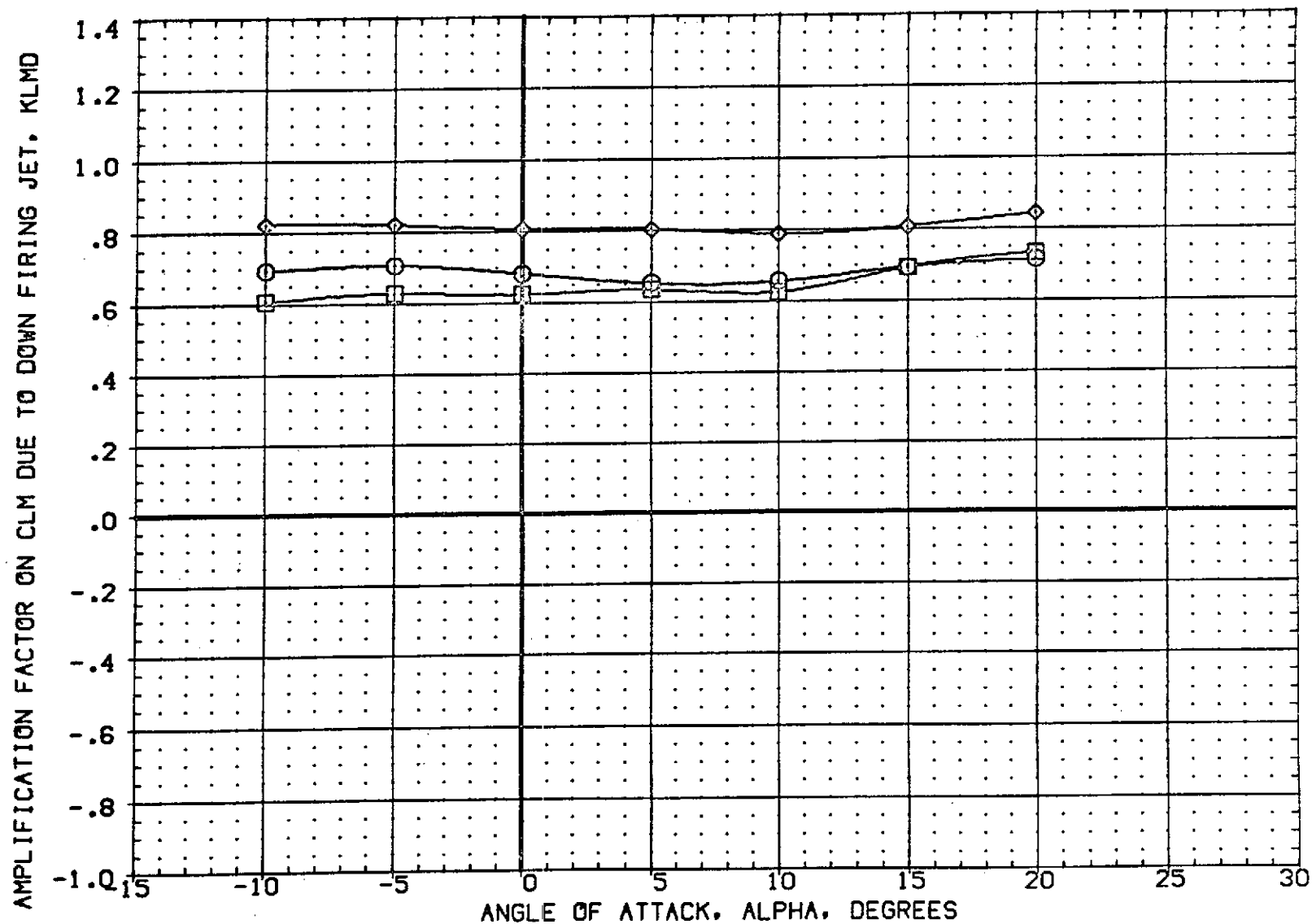


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1020)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1042)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1004)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.2500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

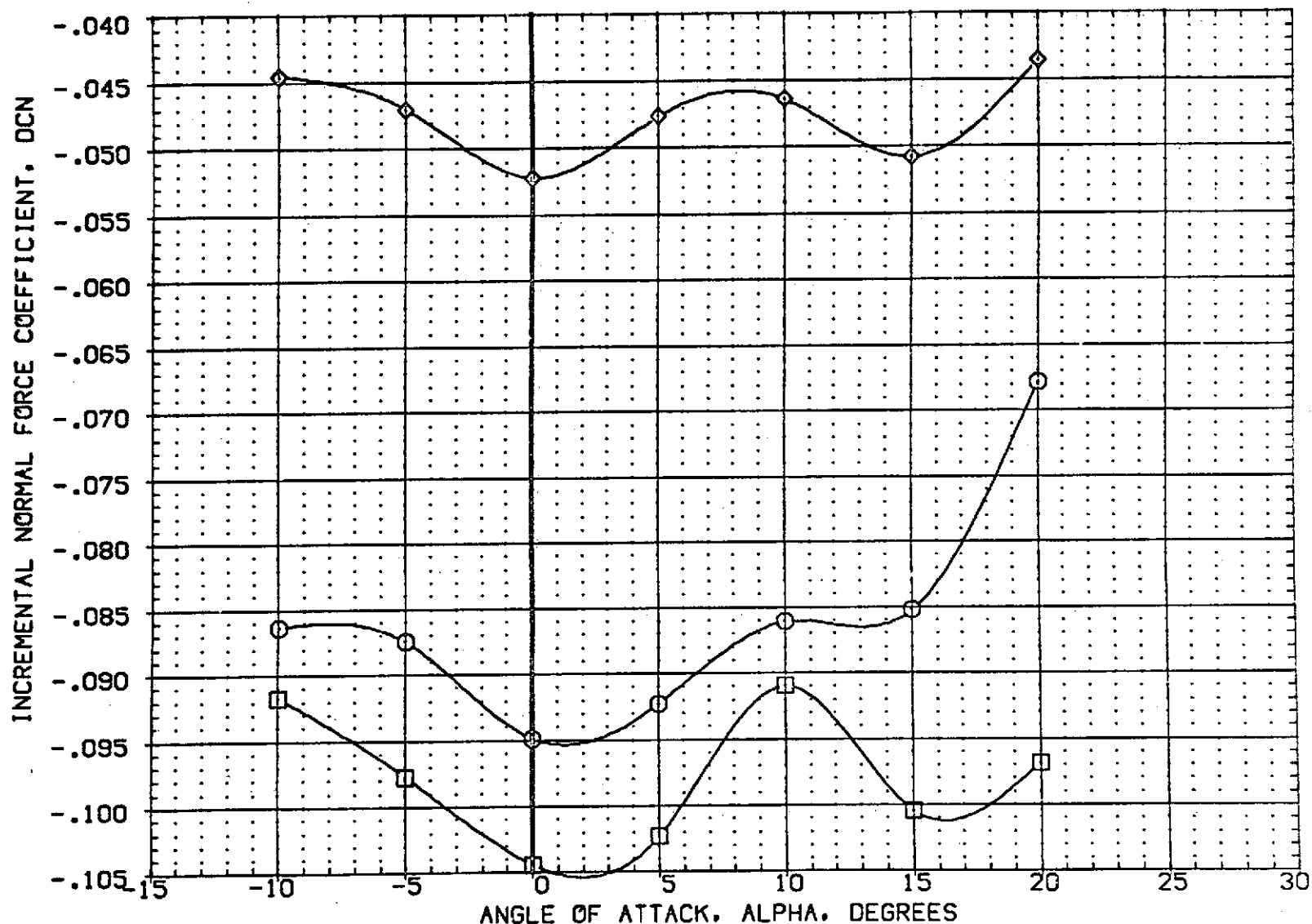


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CHI020)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N50 PITCH DWN 469.000	-20.000	.000	.000	.000	SREF	38.7360	SQ. IN.
(CHI042)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN 469.000	.000	.000	.000	.000	LREF	4.7460	INCHES
(CHI004)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N50 PITCH DWN 469.000	15.000	.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3380	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

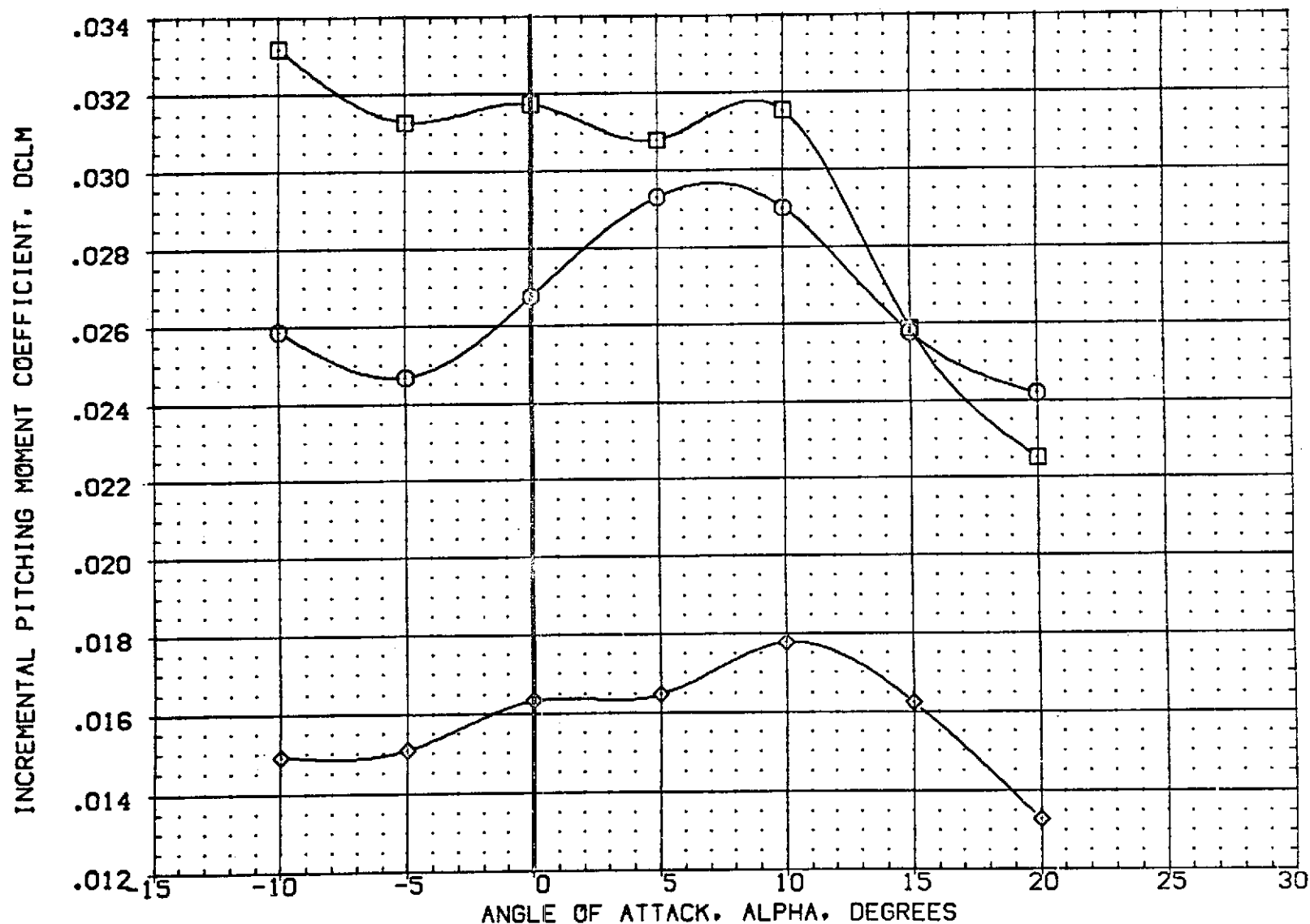


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH120N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	-20.000	.000	.000	SREF	38.7360	SQ. IN.
(RH142N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	LREF	4.7460	INCHES
(RH104N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	15.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3560	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMSP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

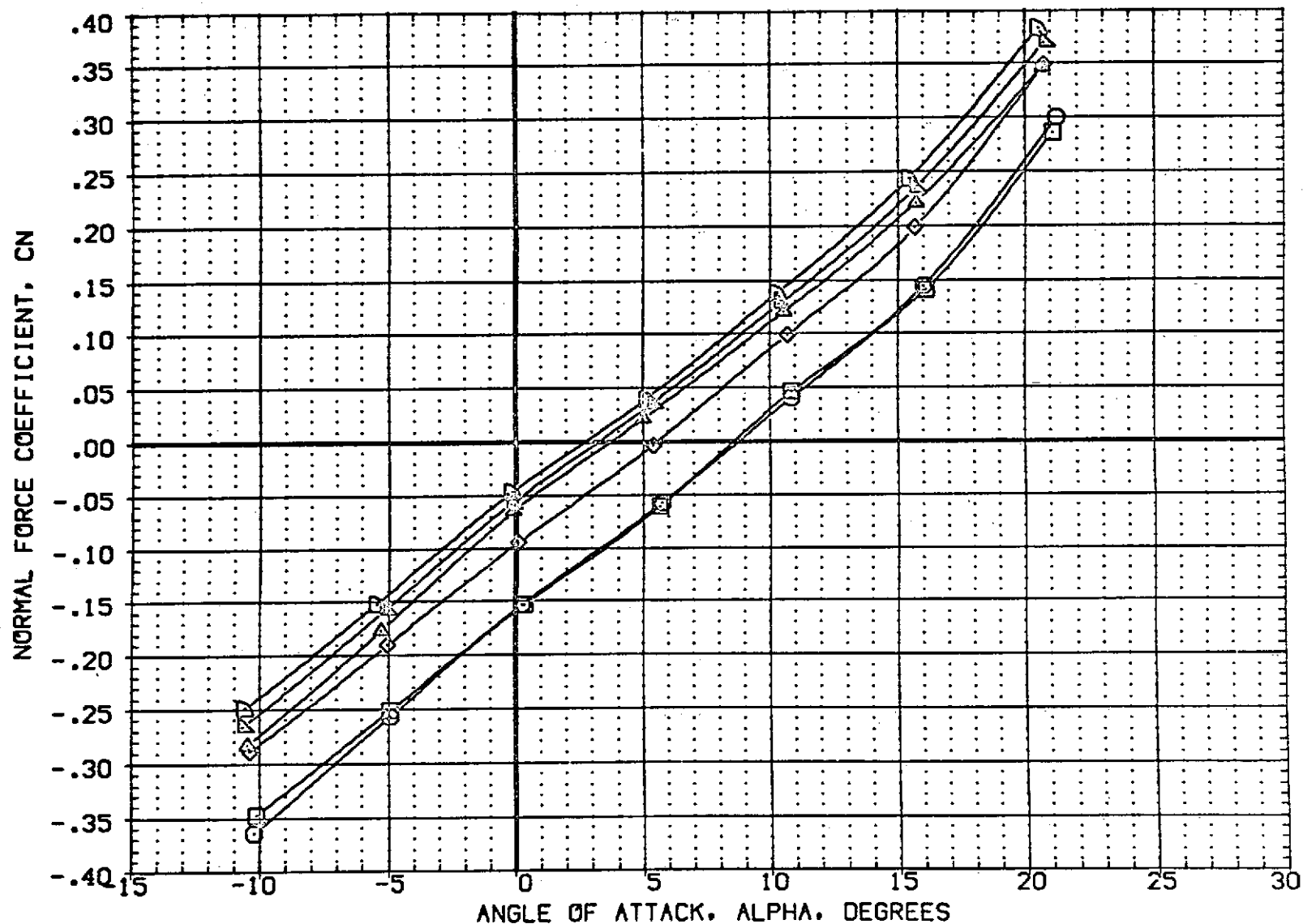


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPOBRK	REFERENCE INFORMATION		
(RH120N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(RH142N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	.000	.000	.000	LREF	4.7400	INCHES
(RH104N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N50 PITCH DWN	469.000	15.000	.000	.000	BREF	9.3370	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3660	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0020	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

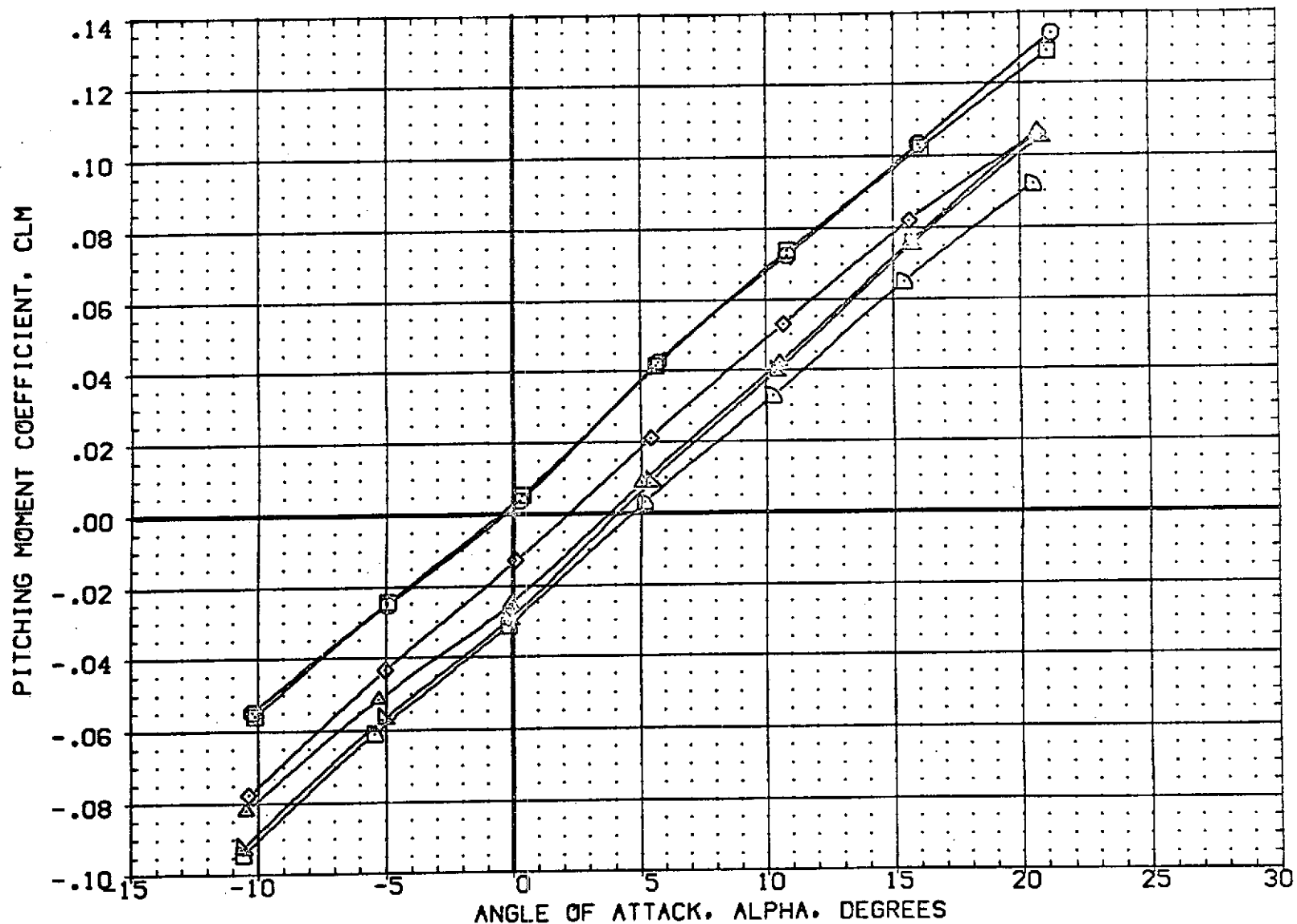


FIG 4 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1019)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1041)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1003)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3620 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

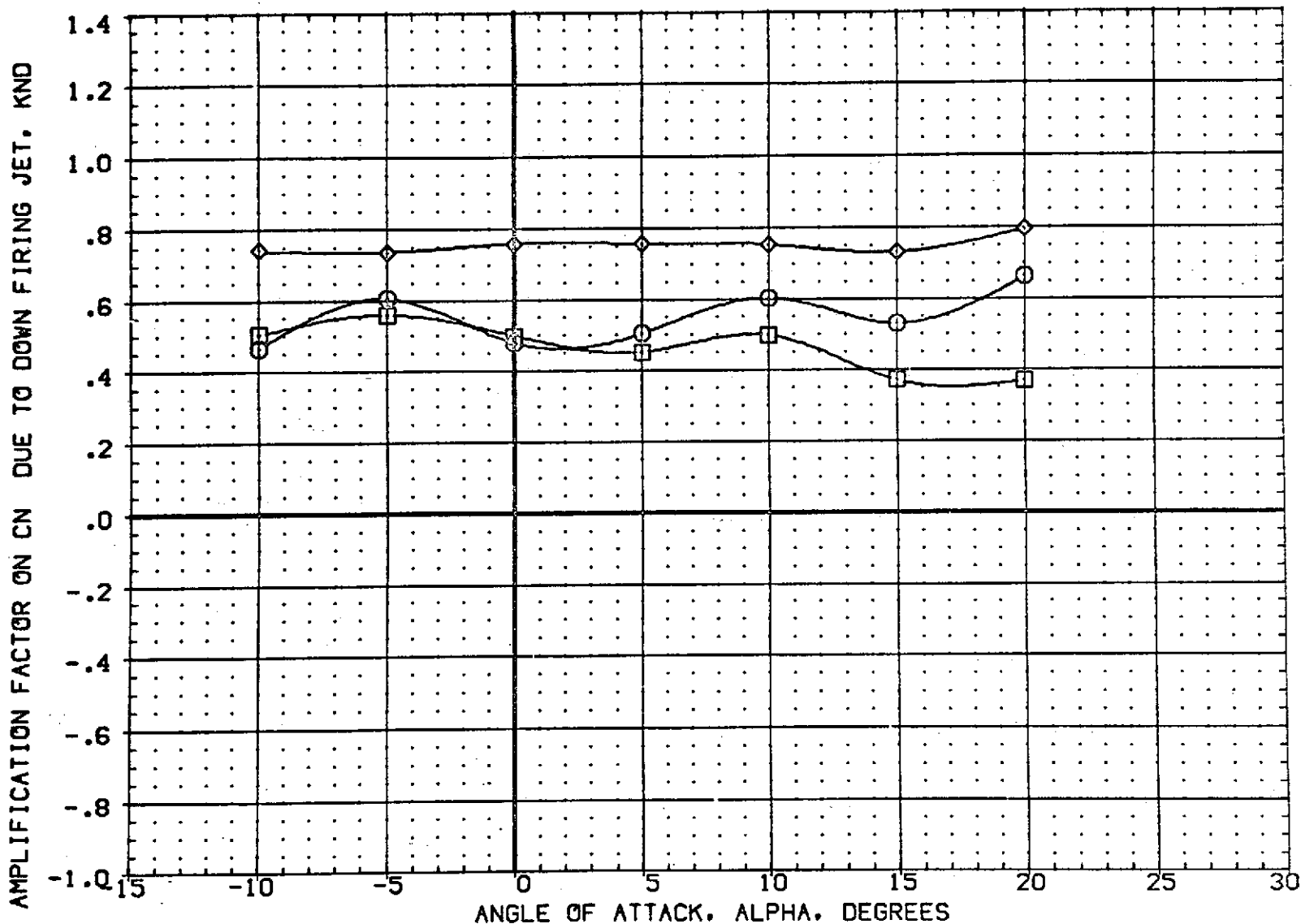


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1019)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	38.7360	SQ. IN.
(CH1041)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1003)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMPP	7.3290	INCHES
						YMPP	.0000	INCHES
						ZMPP	.9340	INCHES
						SCALE	.0100	SCALE

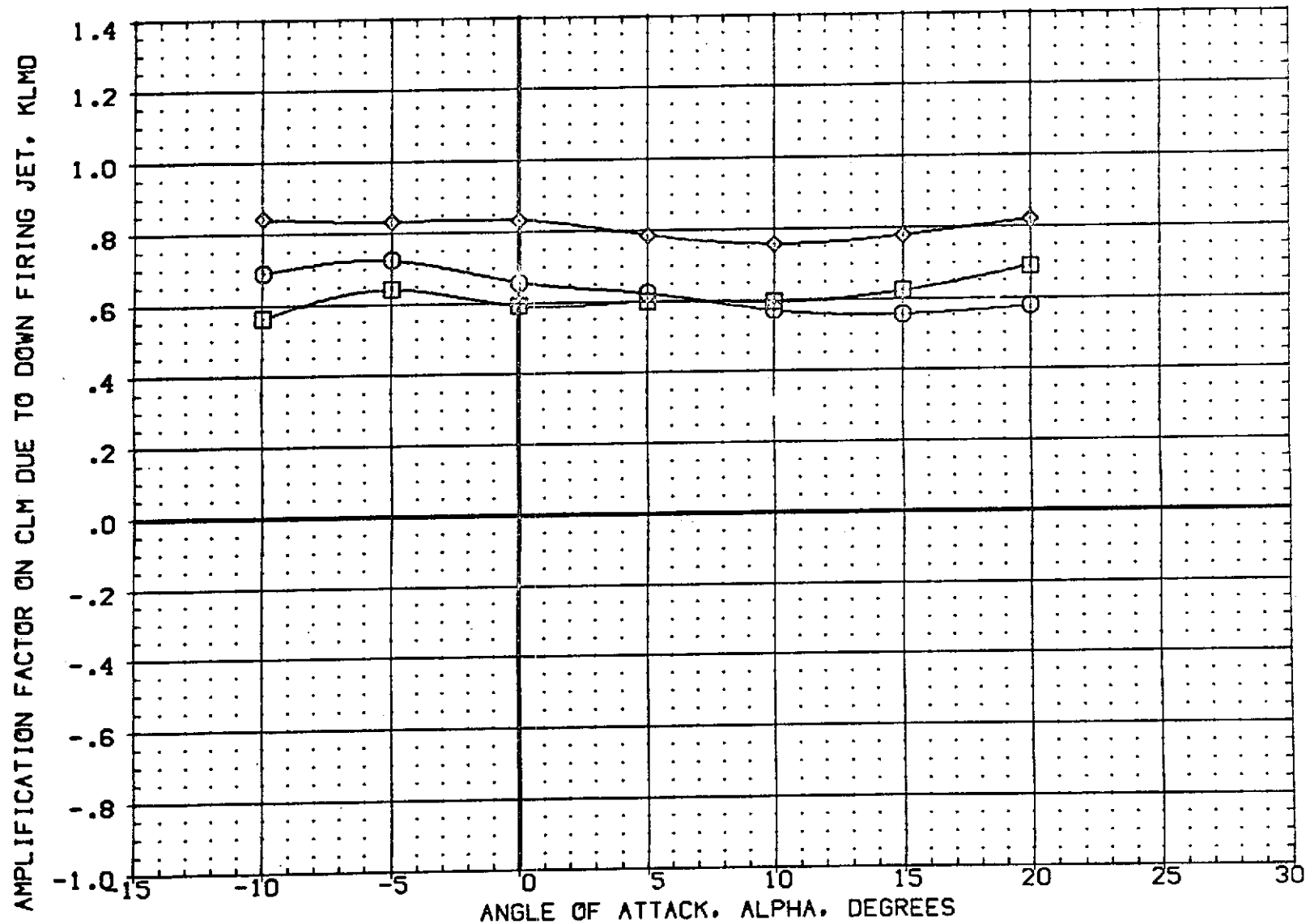


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1019)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	39.7260	SQ. IN.
(CH1041)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1003)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3600	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

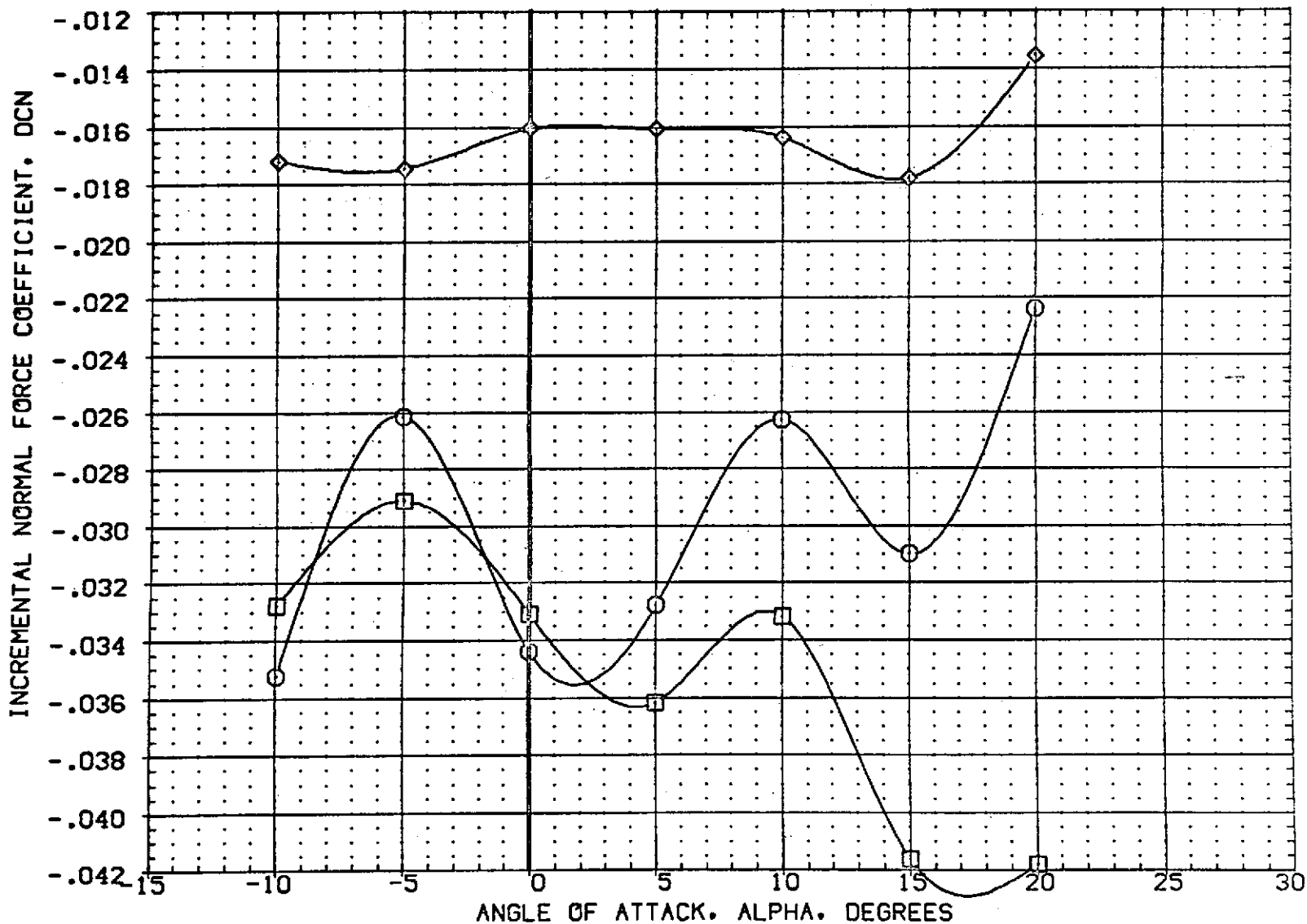


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPOILER	REFERENCE INFORMATION	
(CH1019)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1041)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7420 INCHES
(CH1003)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3600 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9540 INCHES
						SCALE	.0100 SCALE

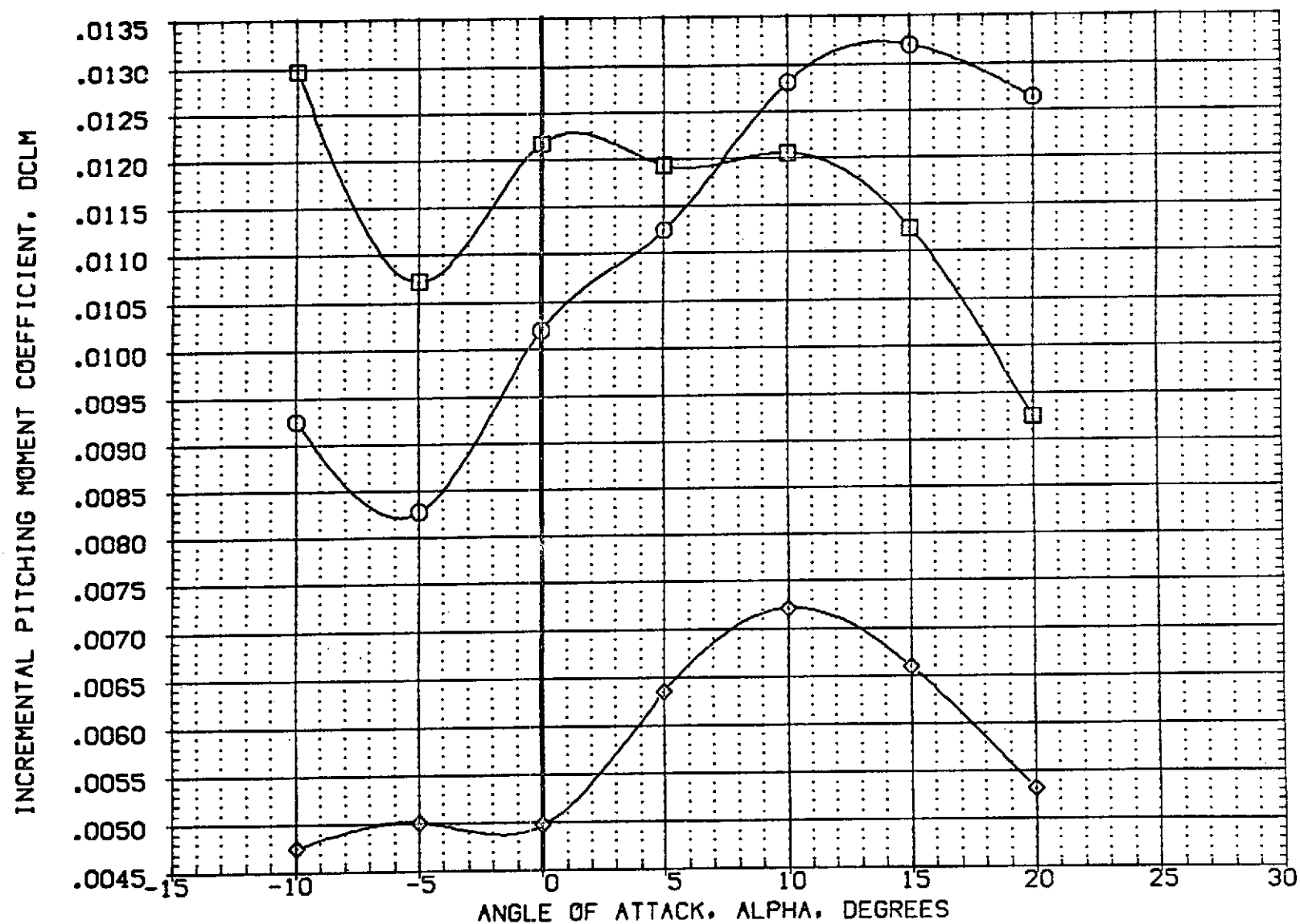


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH119N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(RH141N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7460	INCHES
(RH103N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	1A-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3690	INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	1A-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9540	INCHES
						SCALE	.0100	SCALE

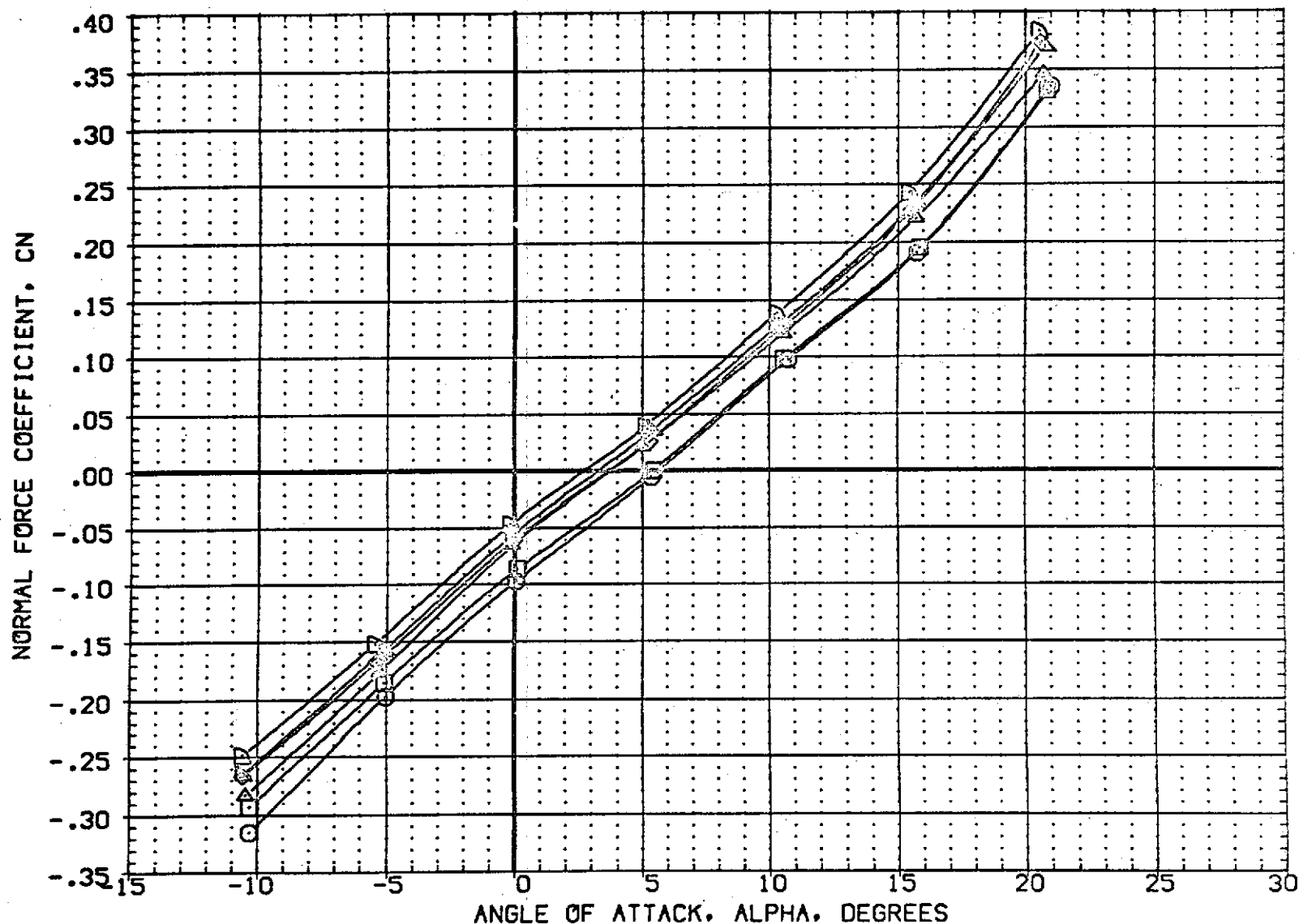


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(RH119N)	IA-60 CFHT109 MODEL 32-OT (0 T)N49 N50 PITCH DWN	167.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(RH141N)	IA-60 CFHT109 MODEL 32-OT (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	LREF	4.7480	INCHES
(RH103N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 N50 PITCH DWN	167.000	15.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3590	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

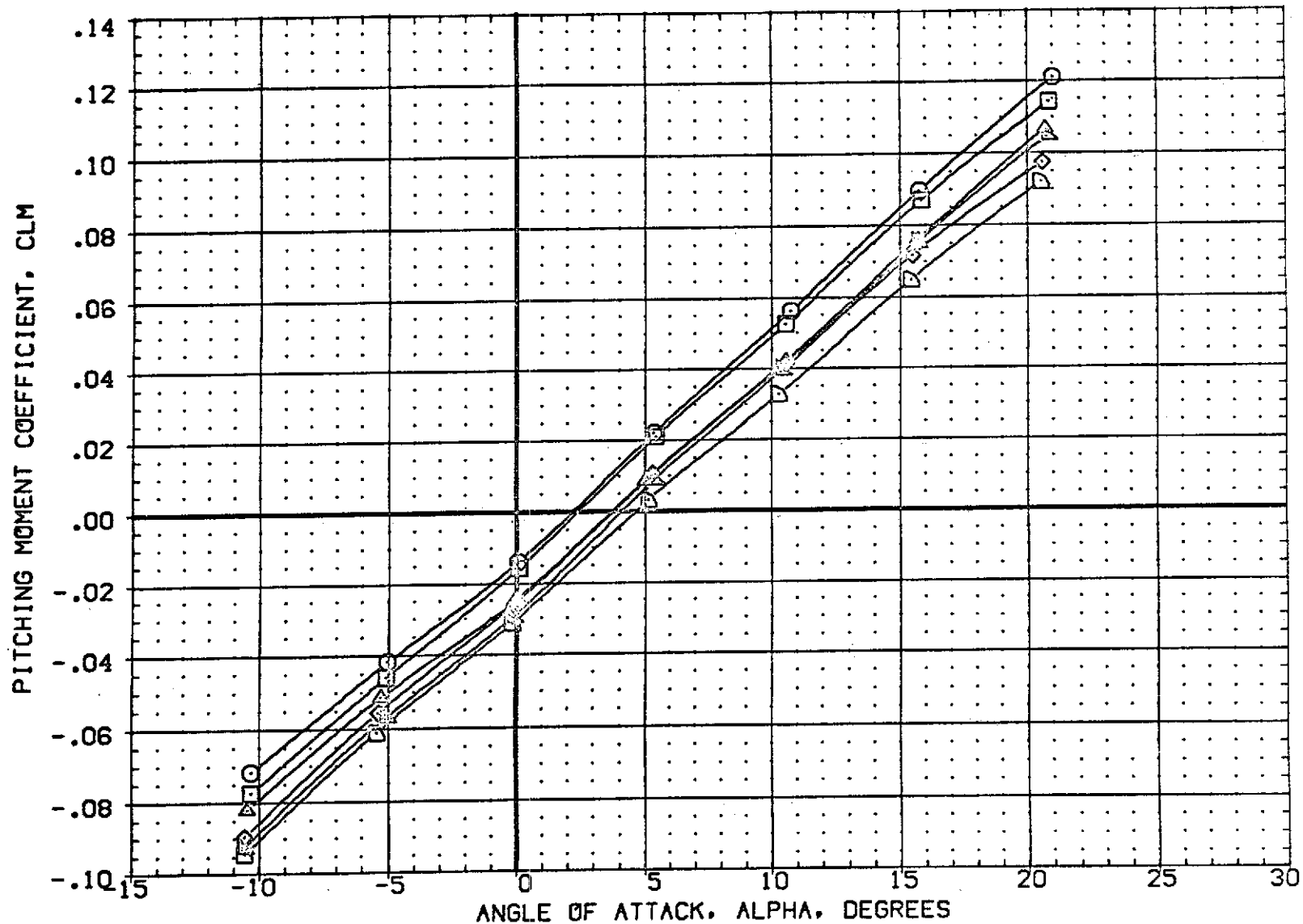


FIG 5 EFFECT OF ELEVON DEFLECTION ON N49N50 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1042)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	SREF	33.7360 SQ. IN.
(CH1040)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	15.000	.000	LREF	4.7480 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3550 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

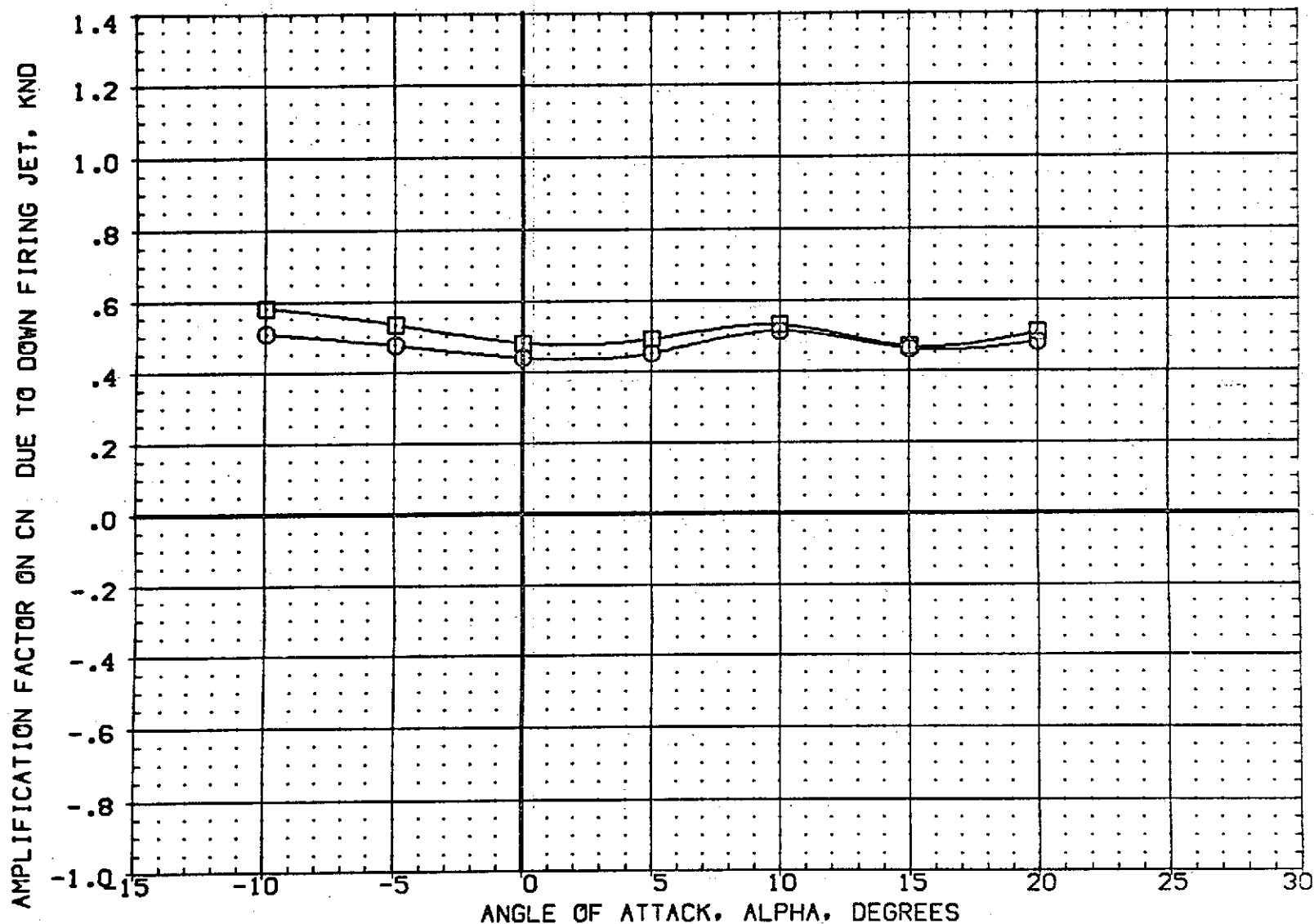


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDRBK	REFERENCE INFORMATION		
(CH1042)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DYN	469.000	.000	.000	.000	SREF	39.7360	50. IN.
(CH1040)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DYN	469.000	.000	15.000	.000	LREF	4.7480	INCHES
						BREF	9.3670	INCHES
						XMRP	7.3690	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

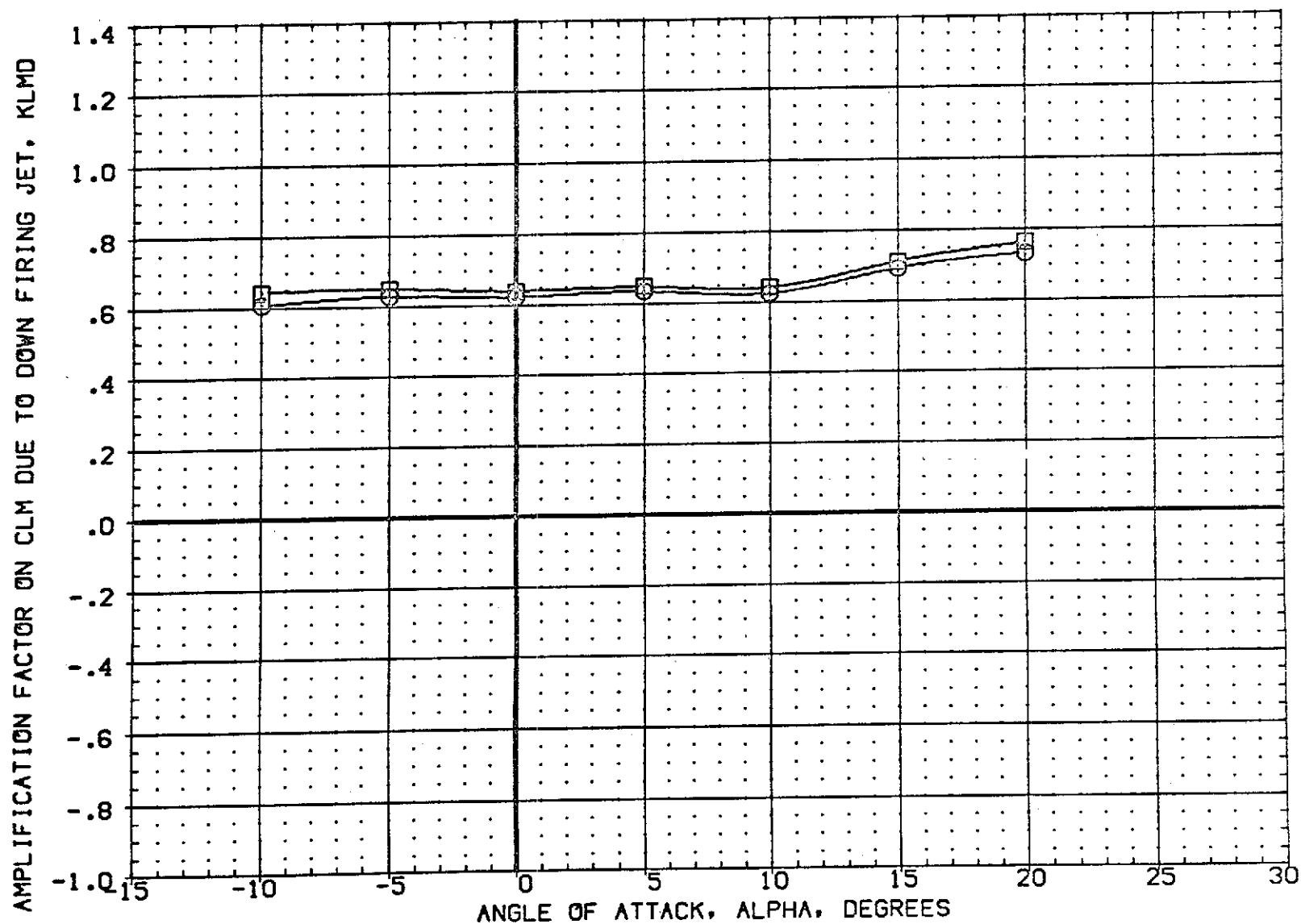


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1042)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	SREF	39.7360	SQ. IN.
(CH1040)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	15.000	.000	LREF	4.7480	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3580	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

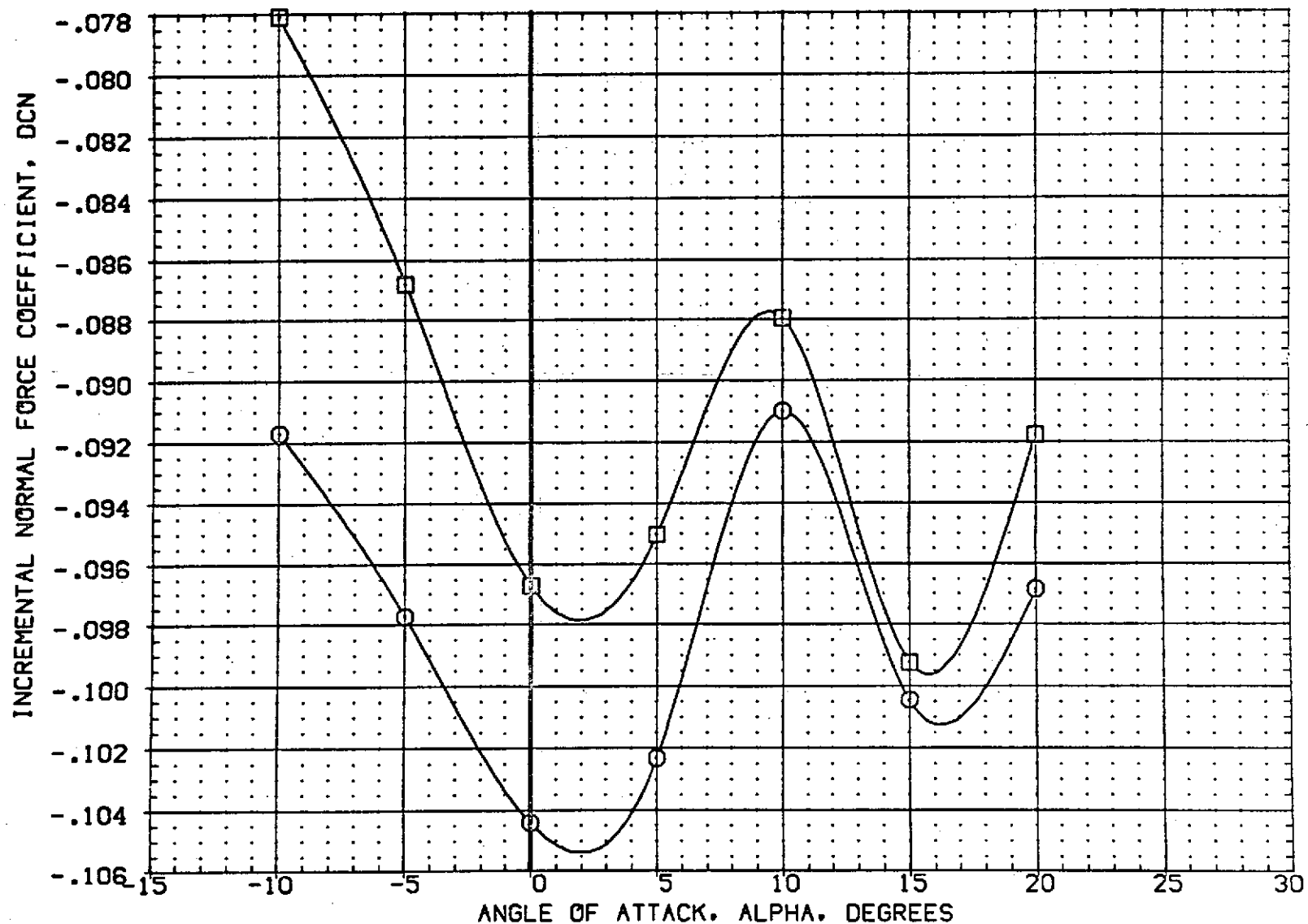


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CH1042) ○ 1A-60 CFHT108 MODEL 32-0T (0 T1N49N50 PITCH DYN 469.000  
 (CH1040) □ 1A-60 CFHT108 MODEL 32-0T (0 T1N49N50 PITCH DYN 469.000

PCPCS ELEVON AILRON SPOBRK  
 .000 .000 .000  
 .000 15.000 .000

REFERENCE INFORMATION  
 SREF 38.7360 SQ. IN.  
 LREF 4.7480 INCHES  
 BREF 9.3670 INCHES  
 XMRP 7.3680 INCHES  
 YMRP .0000 INCHES  
 ZMRP .9940 INCHES  
 SCALE .0100 SCALE

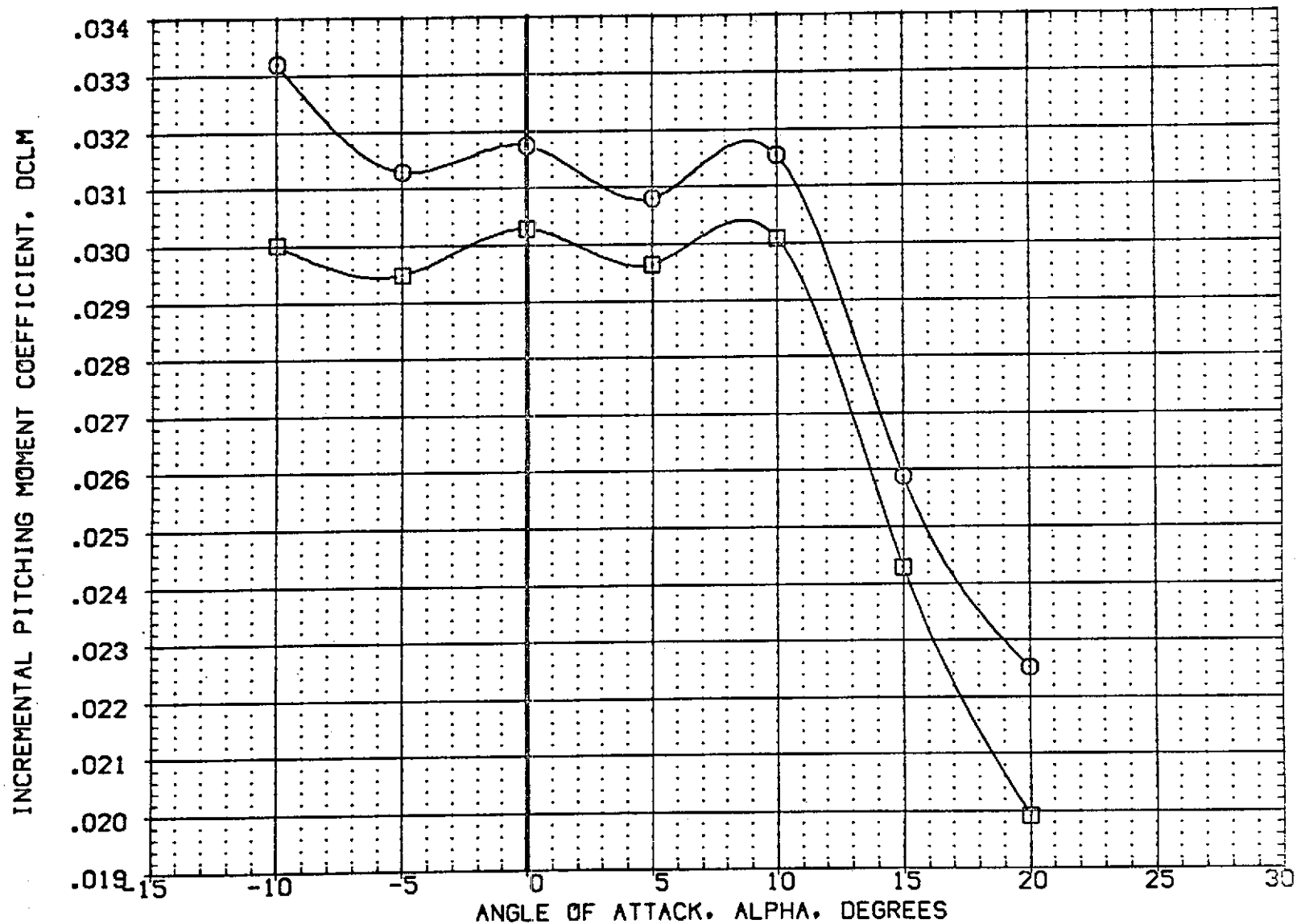


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF

(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(RH142N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	SREF	39.7300 SQ. IN.
(RH140N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	15.000	.000	LREF	4.7480 INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570 INCHES
(RH104F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XM RP	7.3380 INCHES
						YM RP	.0000 INCHES
						ZM RP	.9940 INCHES
						SCALE	.0100 SCALE

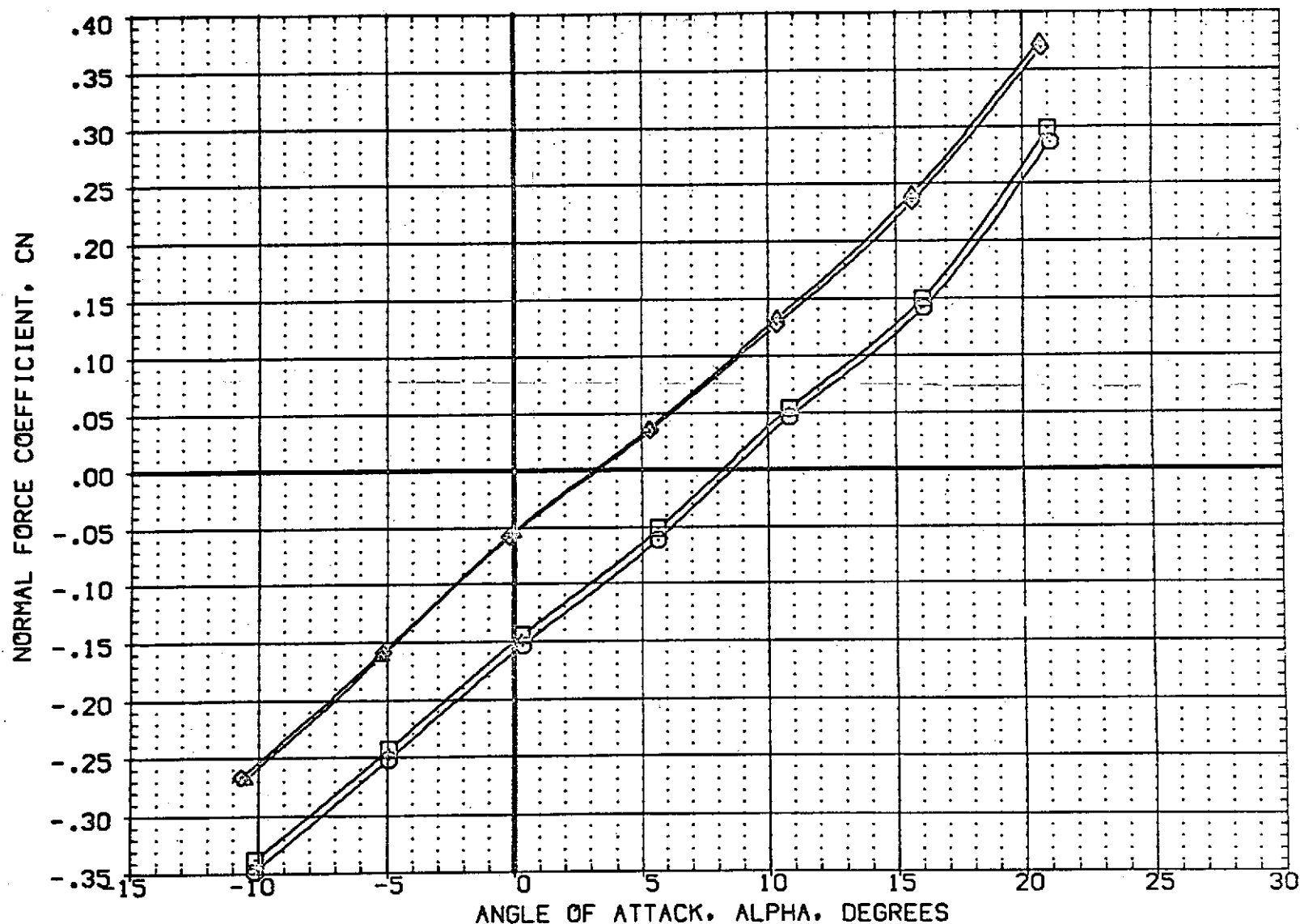


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH142N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	.000	.000	SREF	39.7360	50. IN.
(RH140N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	469.000	.000	15.000	.000	LREF	4.7460	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH104F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3390	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

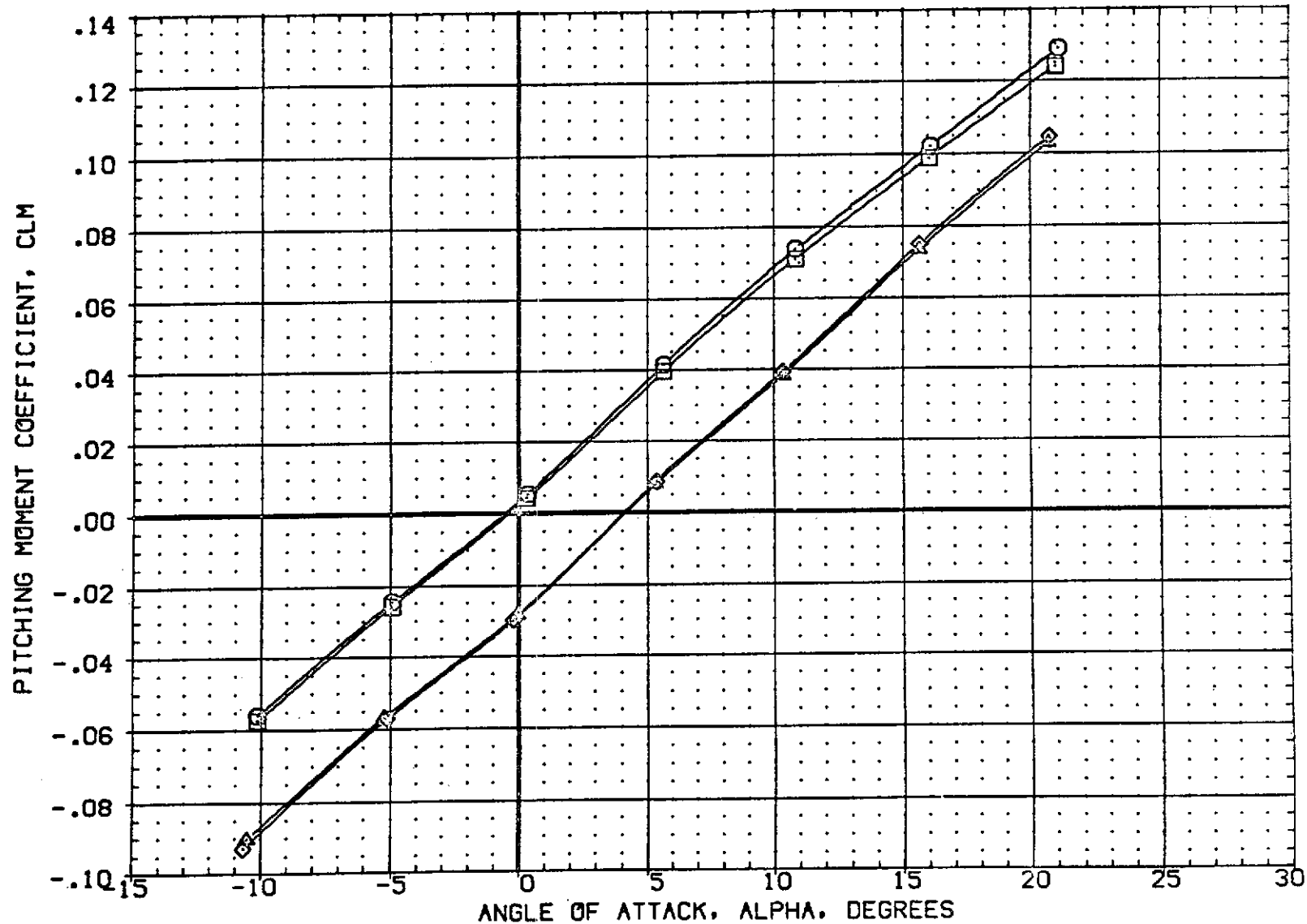


FIG 6 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 7 PSF

(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1041)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1039)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7460 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3650 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

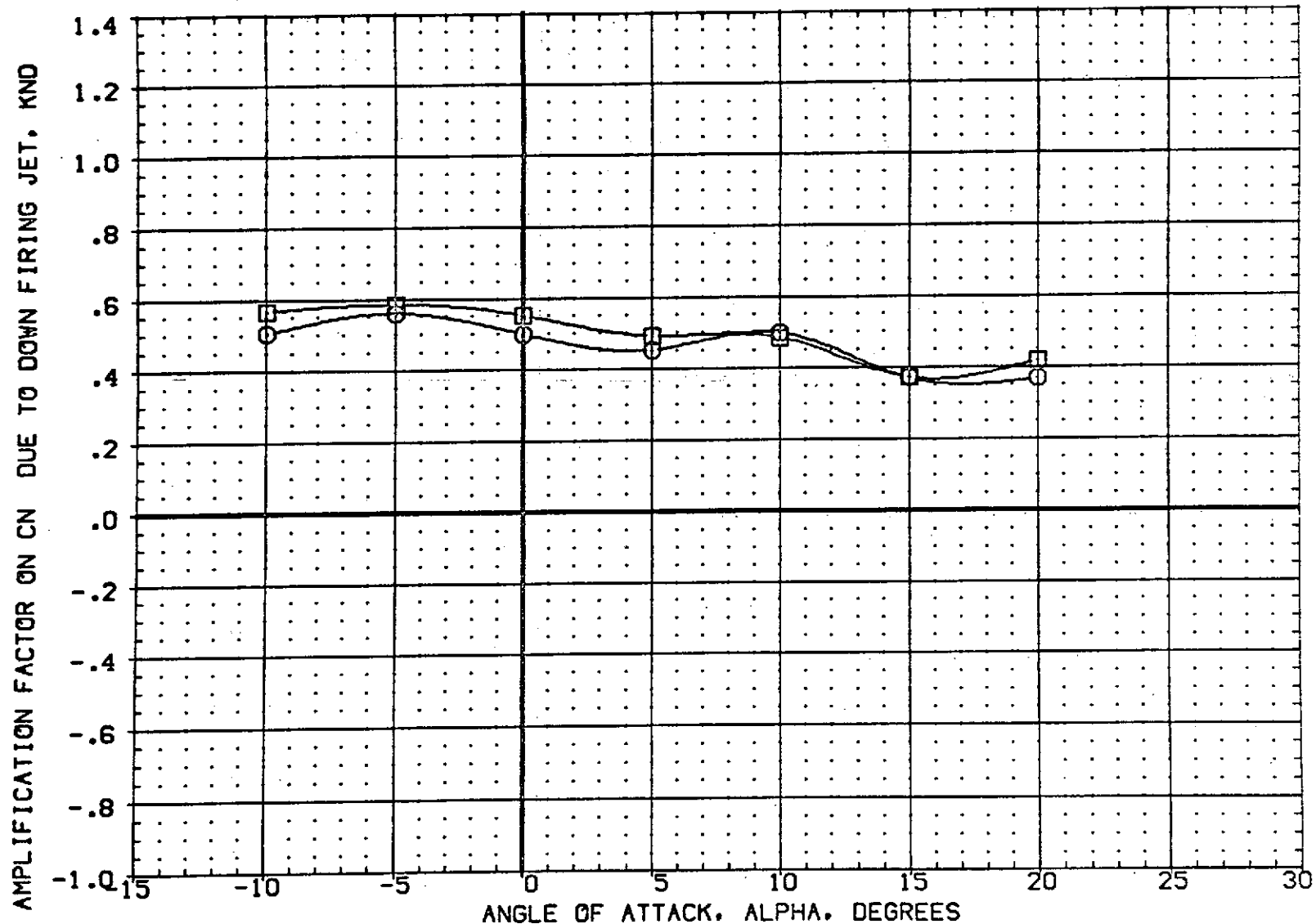


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL		CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1041)	○	1A-60 CFHT108 MODEL 32-OT (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	38.7360 SQ.IN.
(CH1039)	□	1A-60 CFHT108 MODEL 32-OT (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7480 INCHES
							BREF	9.3670 INCHES
							XMRP	7.3680 INCHES
							YMRP	.0000 INCHES
							ZMRP	.5940 INCHES
							SCALE	.0100 SCALE

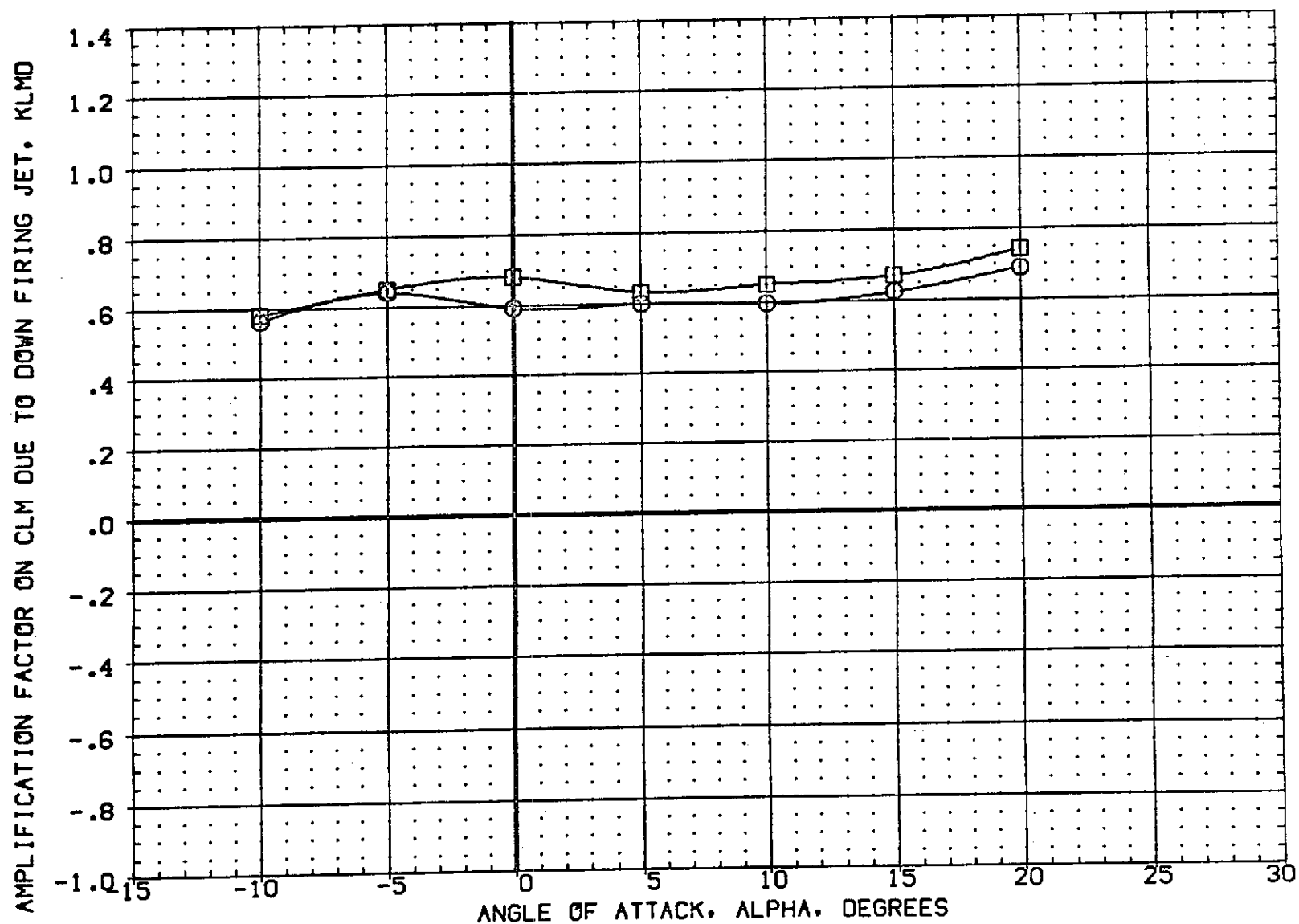


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1041)	1A-60 CFHT108 MODEL 32-OT (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1039)	1A-60 CFHT108 MODEL 32-OT (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7430 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3560 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

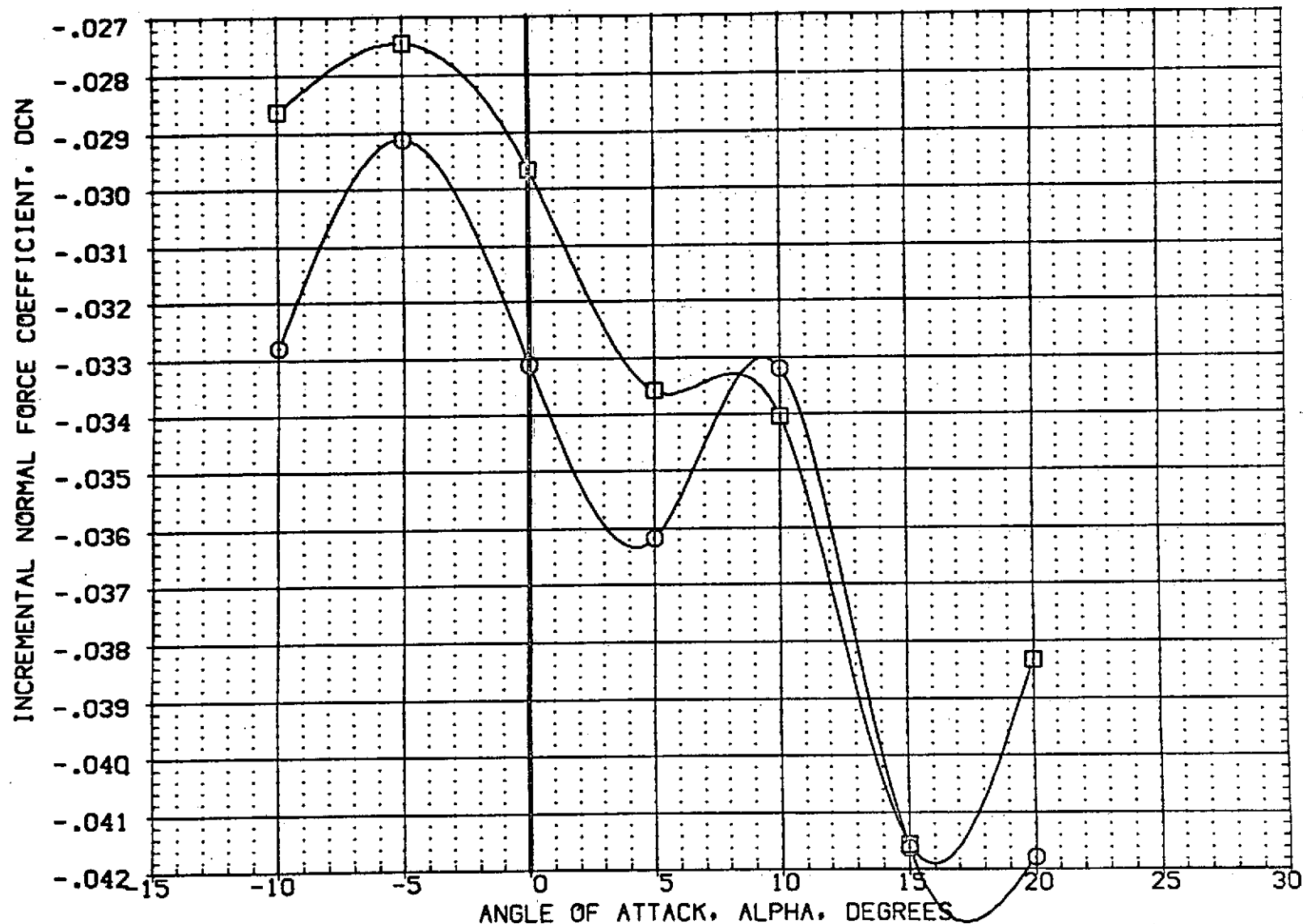


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1041)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	38.7360 SQ.IN.
(CH1039)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7480 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3680 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

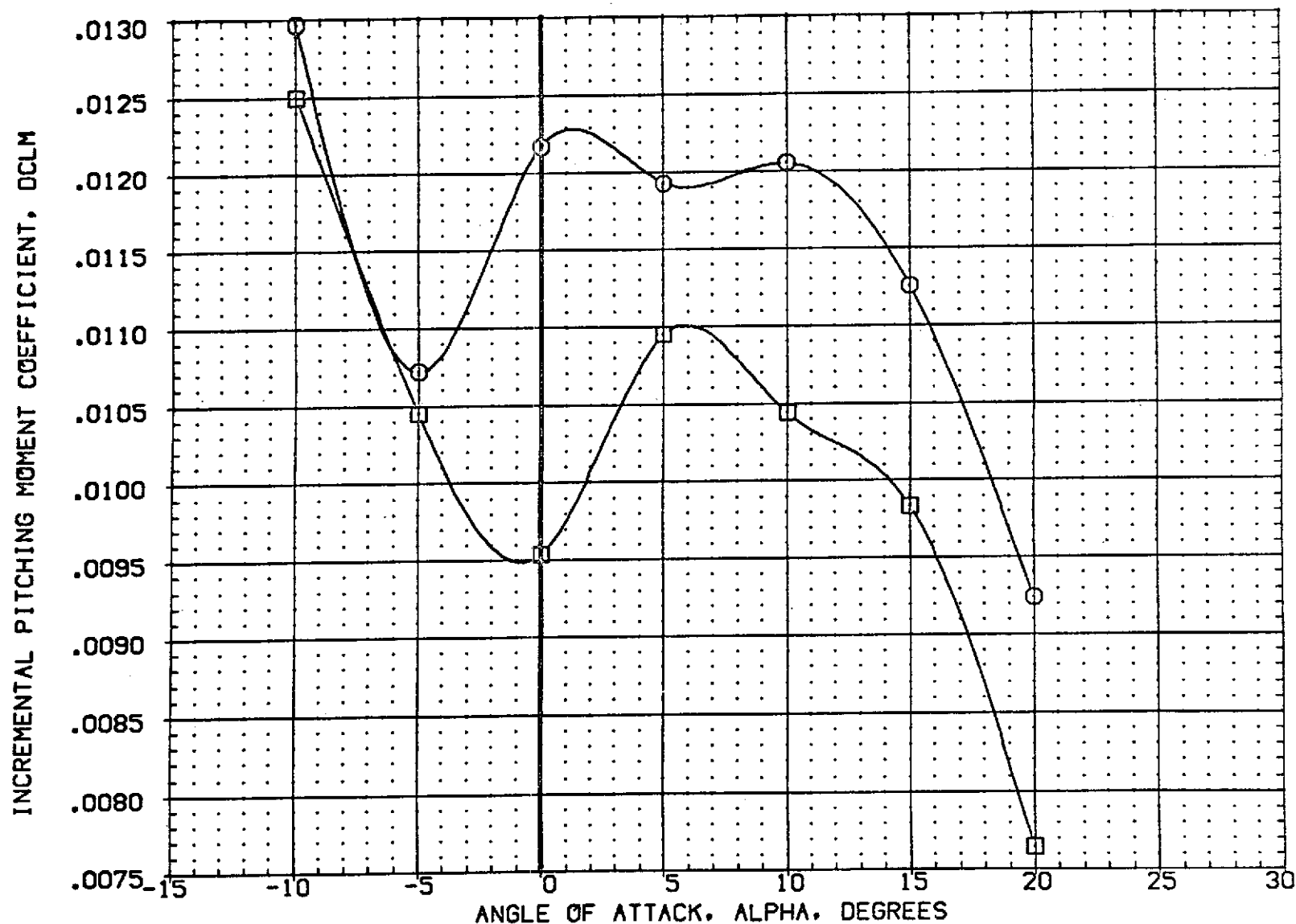


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH141N)	○	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	38.7360	50. IN.
(RH139N)	□	1A-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7420	INCHES
(RH102F)	◇	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH104F)	△	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3660	INCHES
							YMRP	.0000	INCHES
							ZMRP	.9940	INCHES
							SCALE	.0100	SCALE

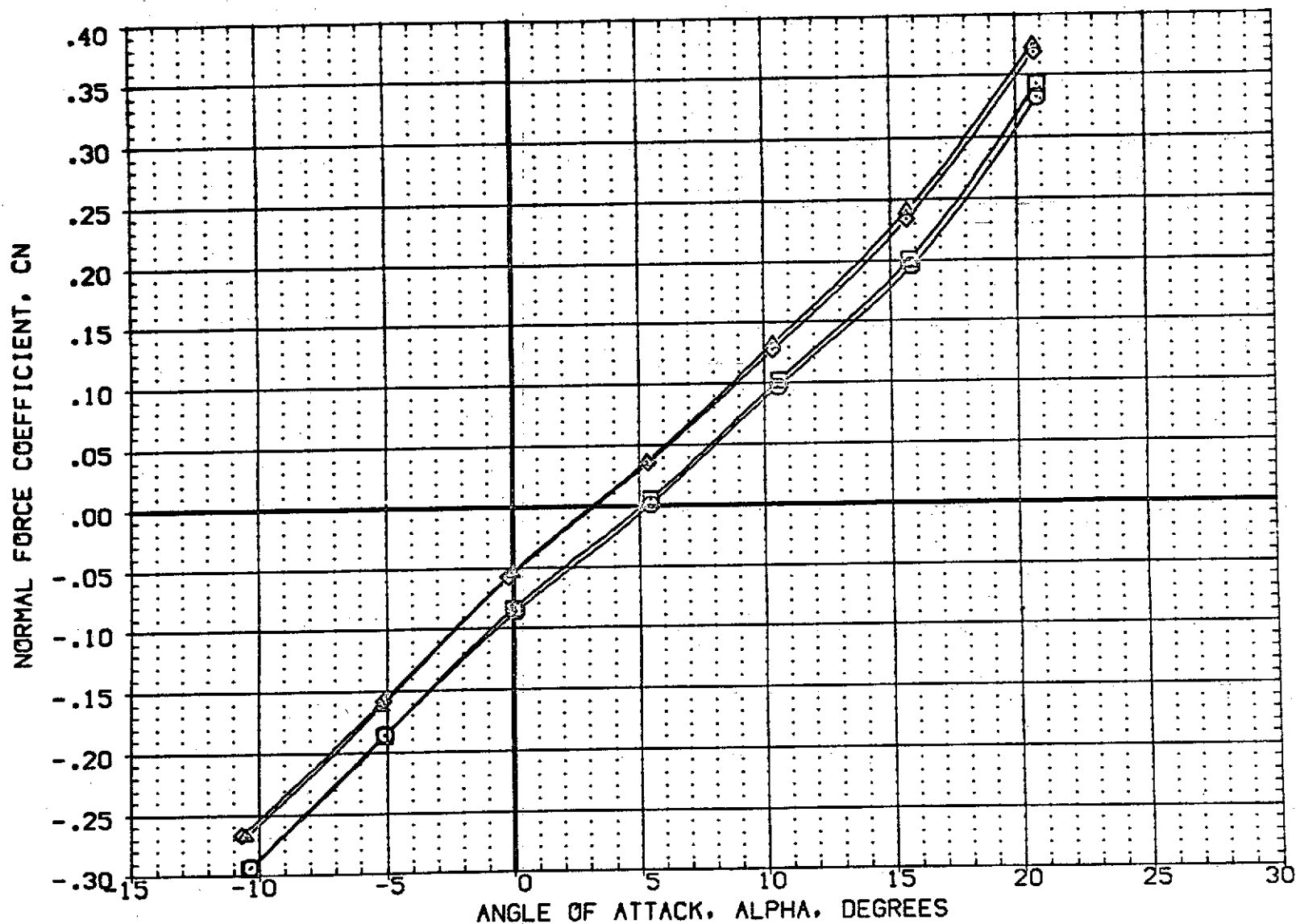


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH141N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	.000	.000	SREF	39.7350	SQ. IN.
(RH139N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N50 PITCH DWN	167.000	.000	15.000	.000	LREF	4.7480	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH104F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3680	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

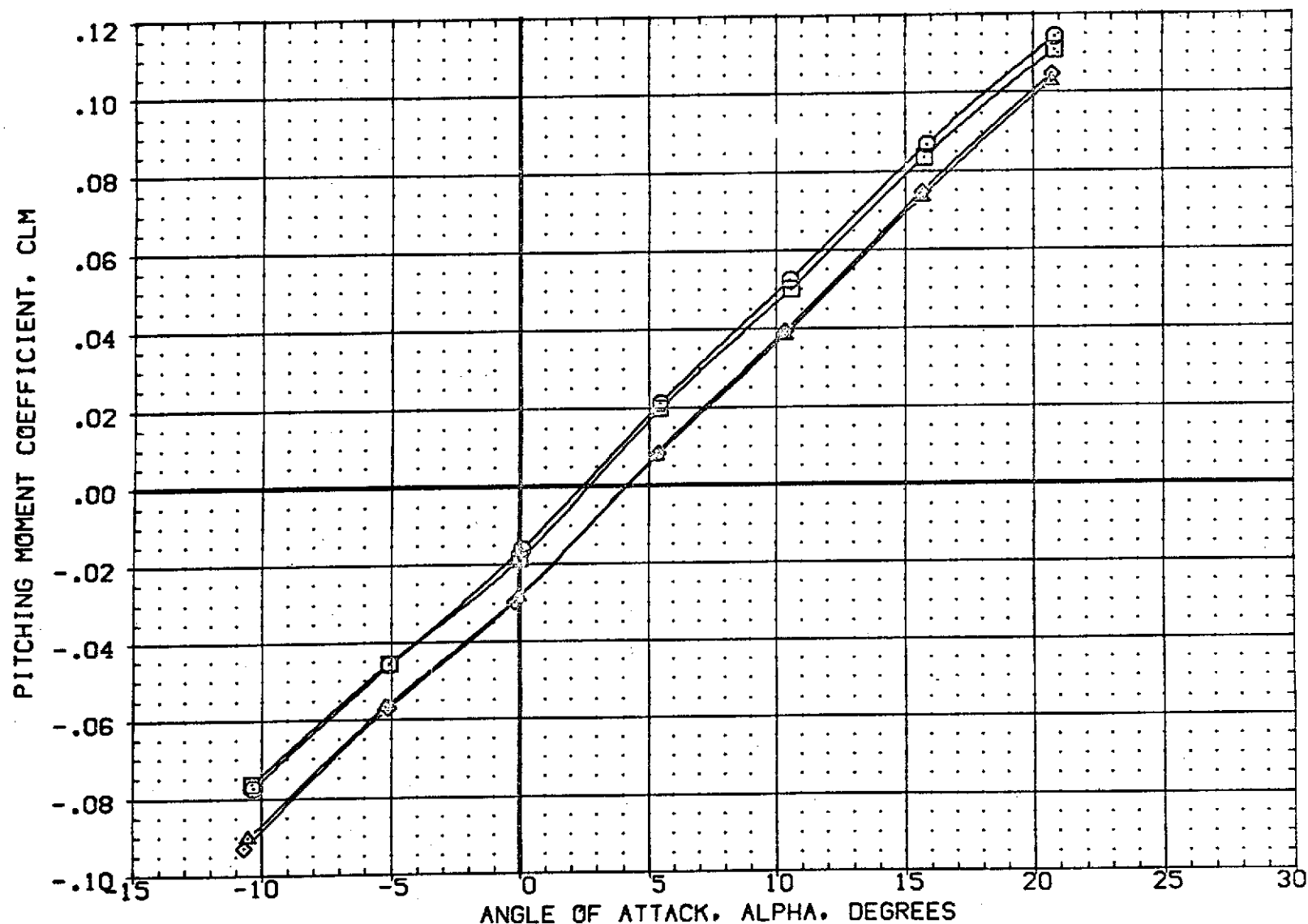


FIG 7 EFFECT OF AILRON DEFL. ON N49N50 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1026)	1A-60 CFHT108 MODEL 32-OT (0 T)NS2 PITCH UP RM	446.000	-20.000	.000	.000	SREF	33.7360 SQ. IN.
(CH1010)	1A-60 CFHT108 MODEL 32-OT (0 T)NS2 PITCH UP	446.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1008)	1A-60 CFHT108 MODEL 32-OT (0 T)NS2 PITCH UP	446.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3620 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

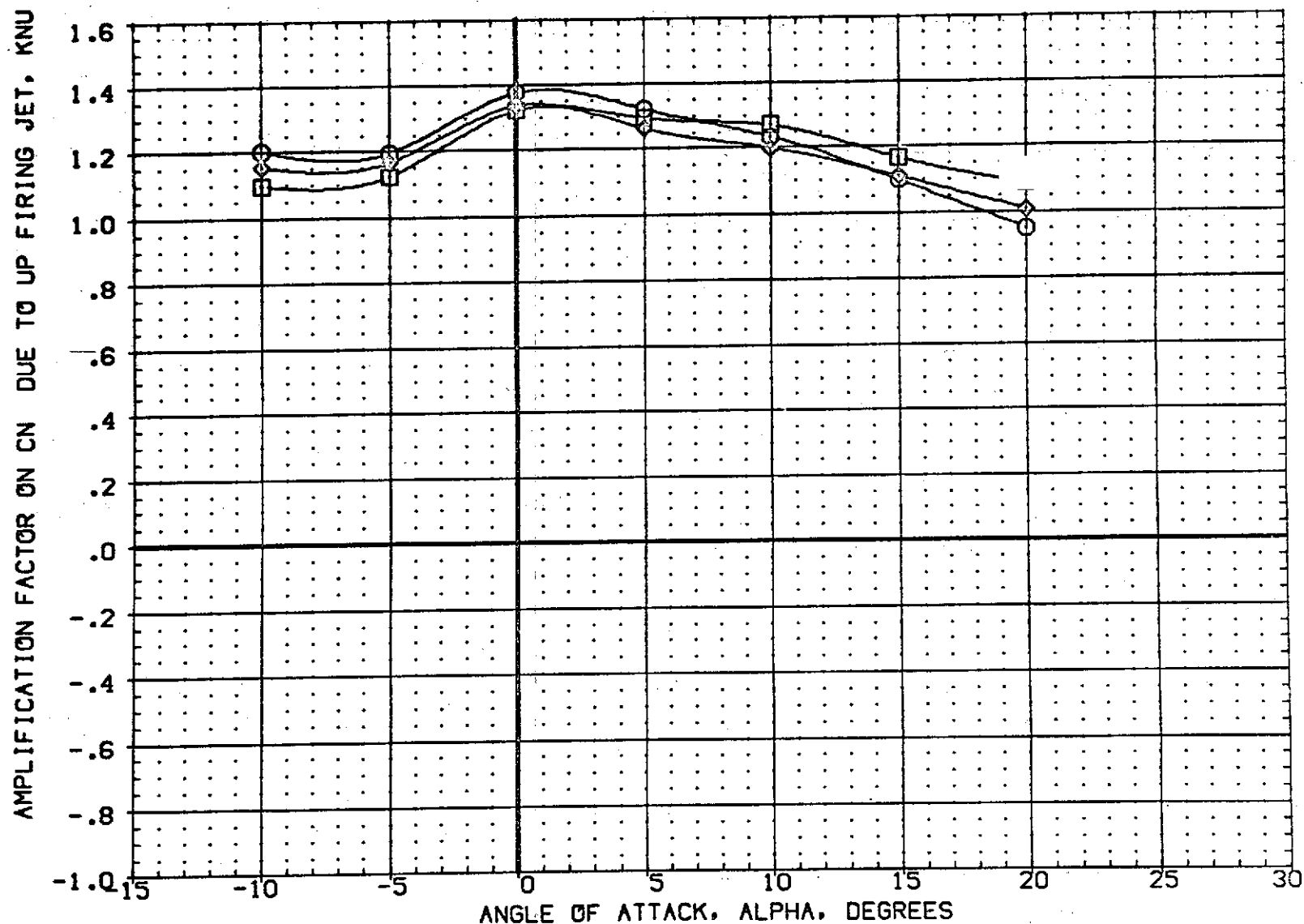


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1026)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	RH 446.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1008)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

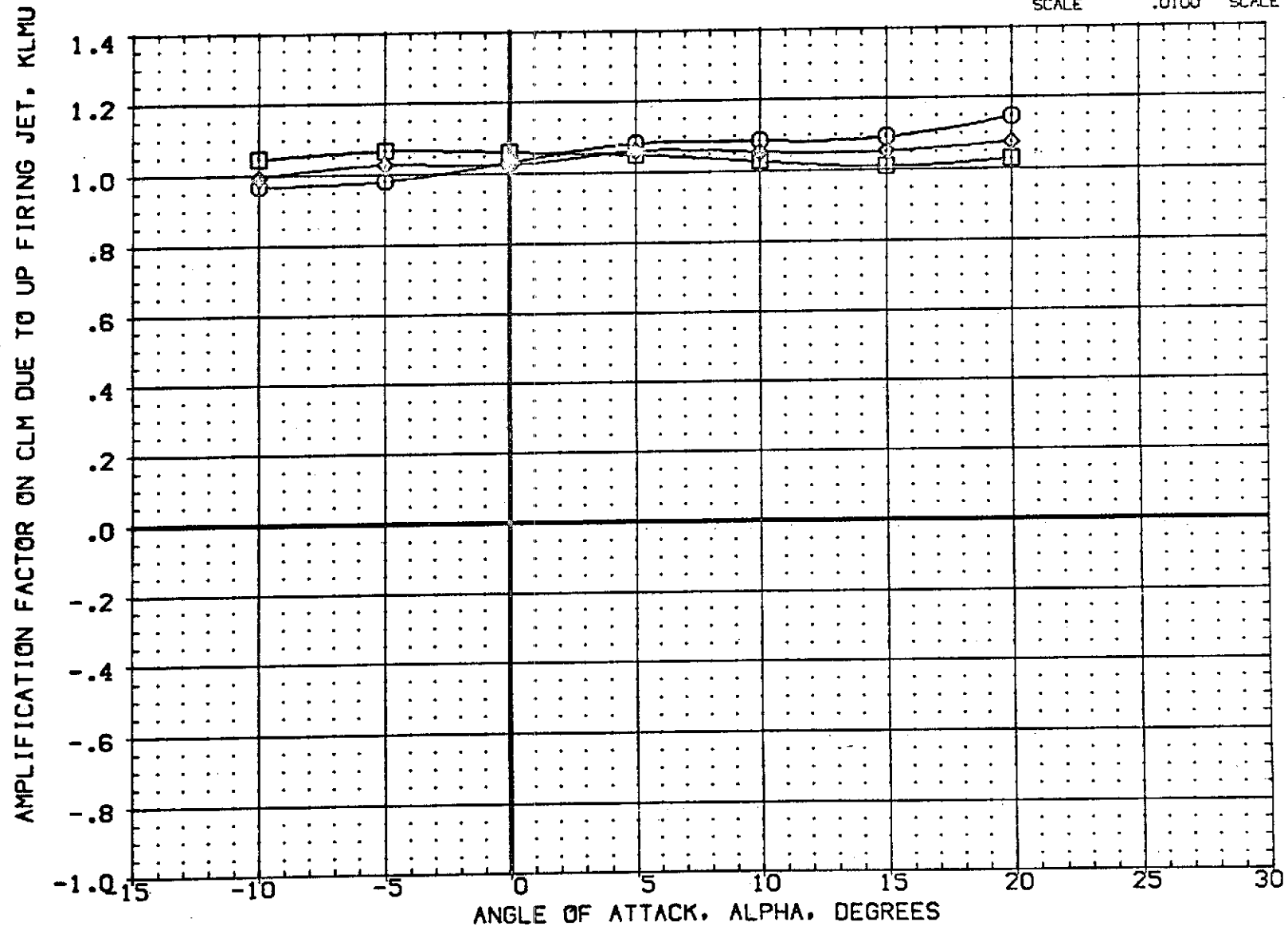


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1026)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7490 INCHES
(CH1008)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3300 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9910 INCHES
						SCALE	.0100 SCALE

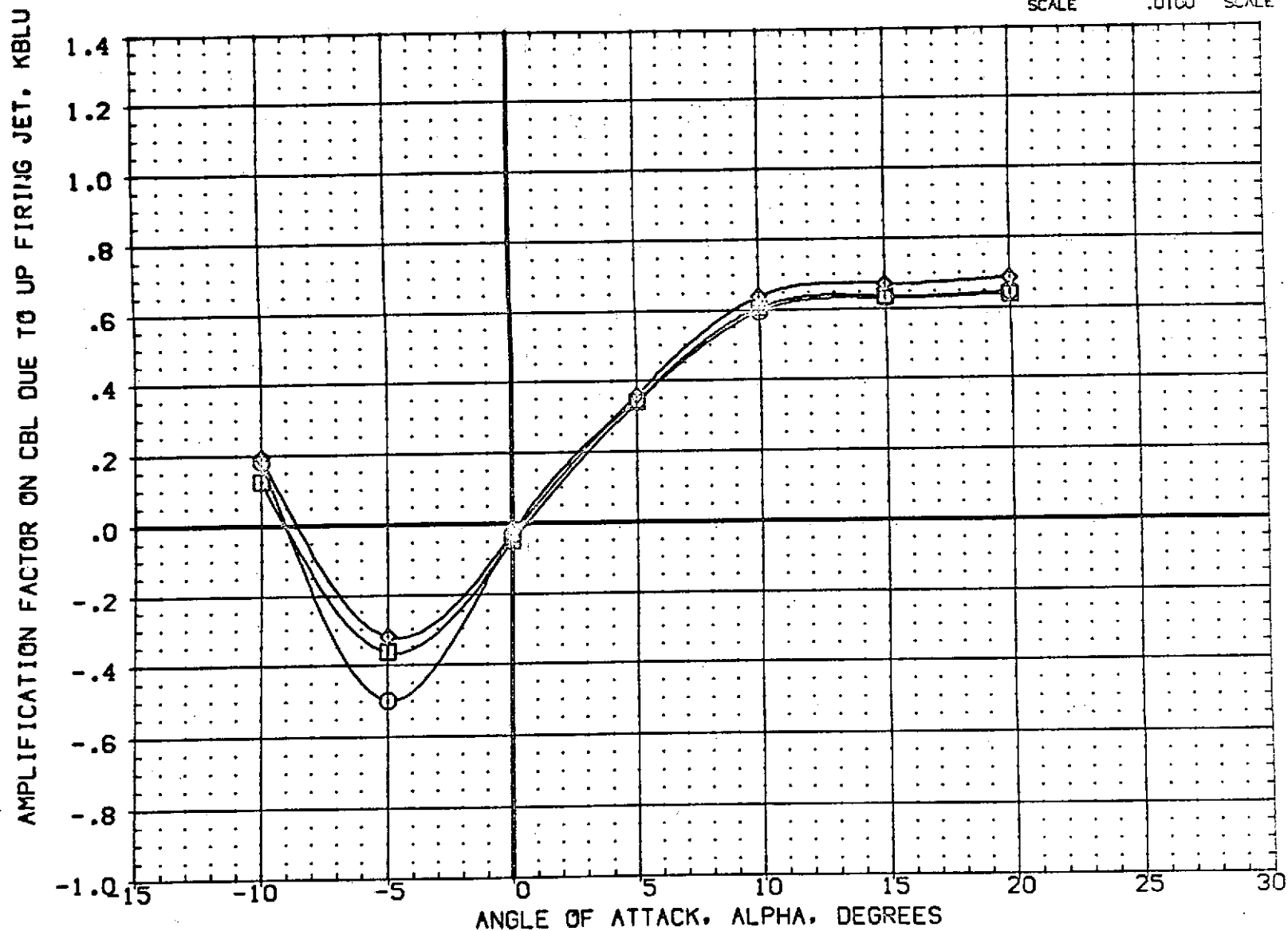


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1026)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1008)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3530 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

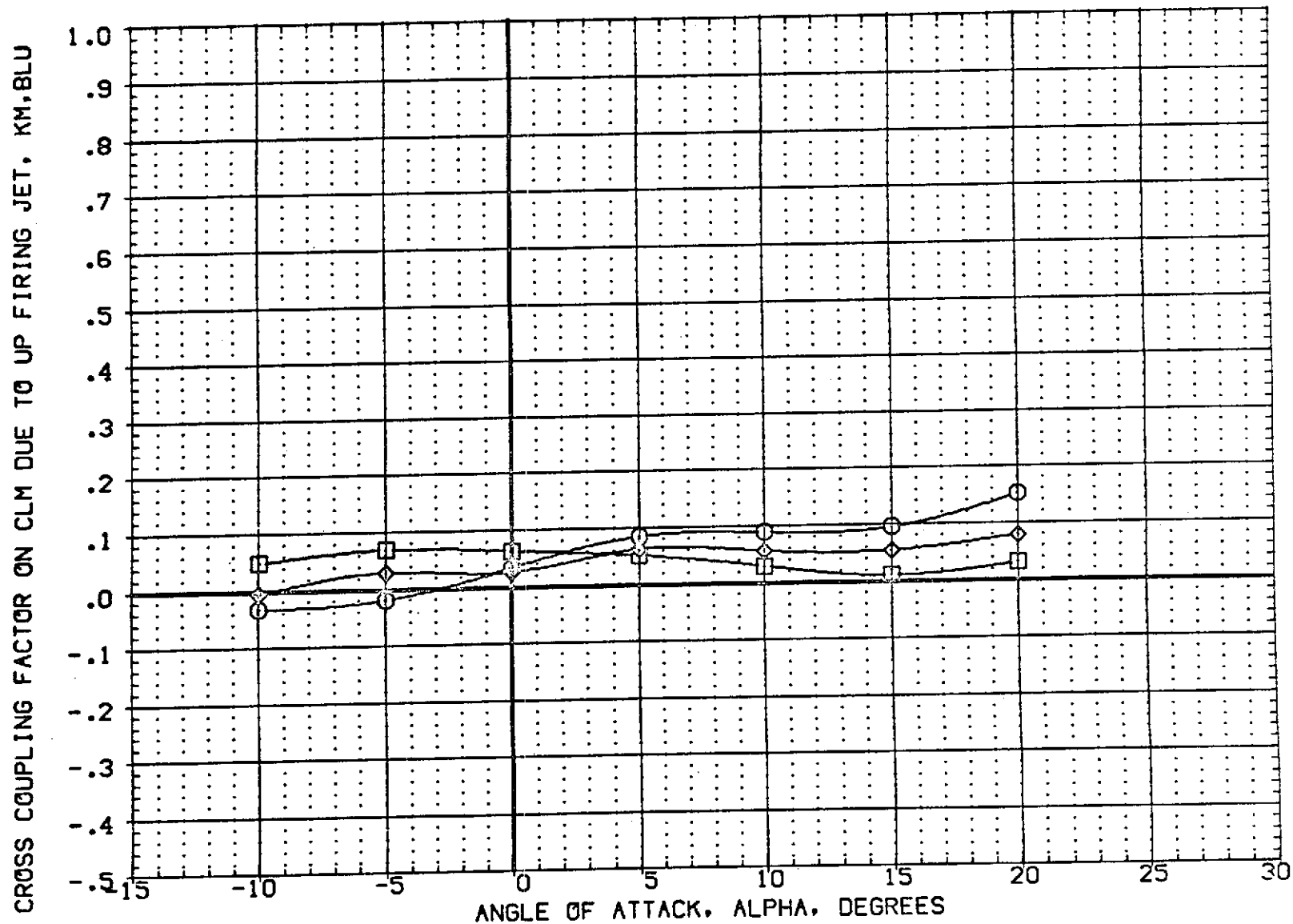


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1026)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(CH1010)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1008)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMRP	7.3660	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

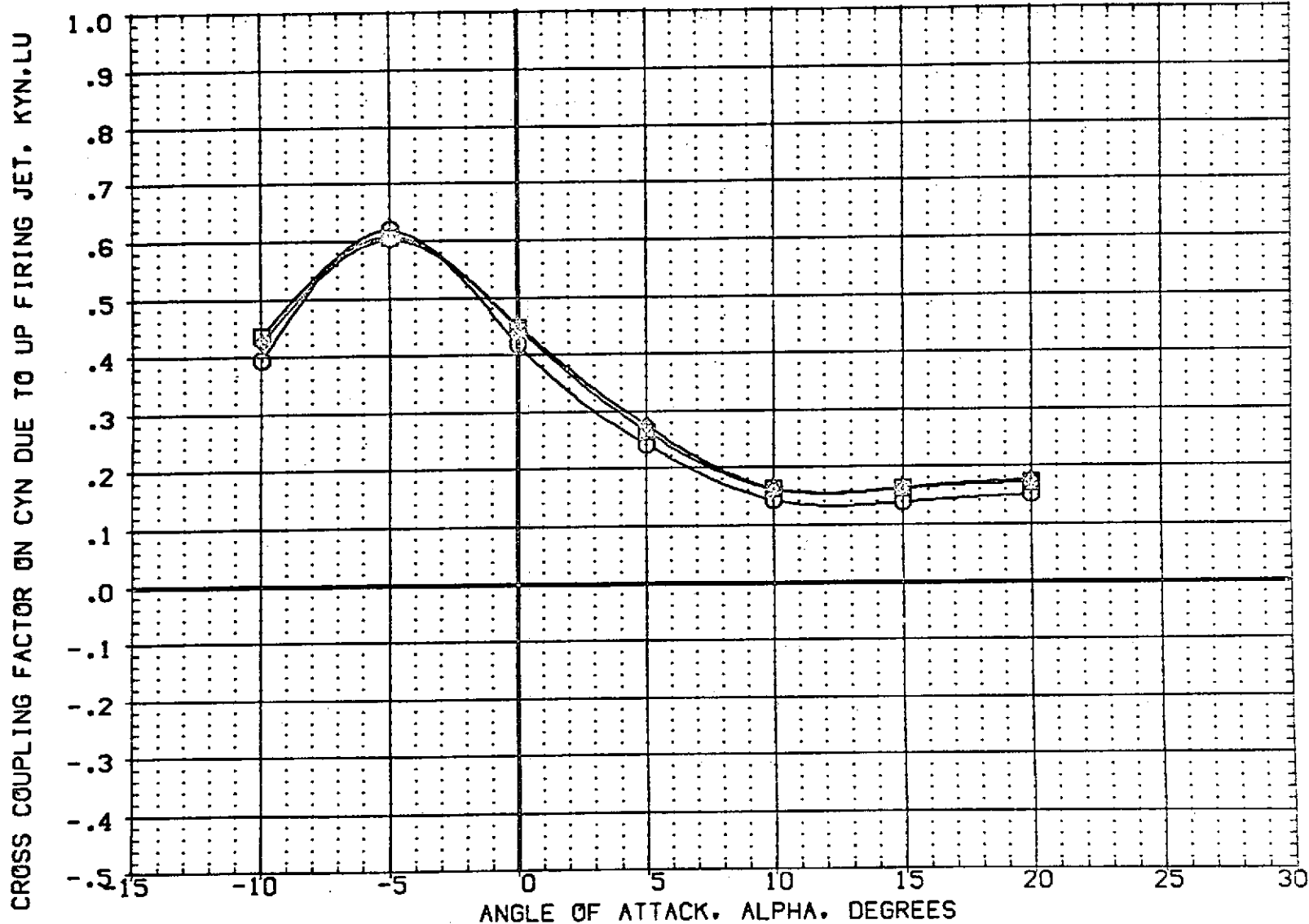


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION		
(CH1026)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	39.7350	50. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1003)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3680	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

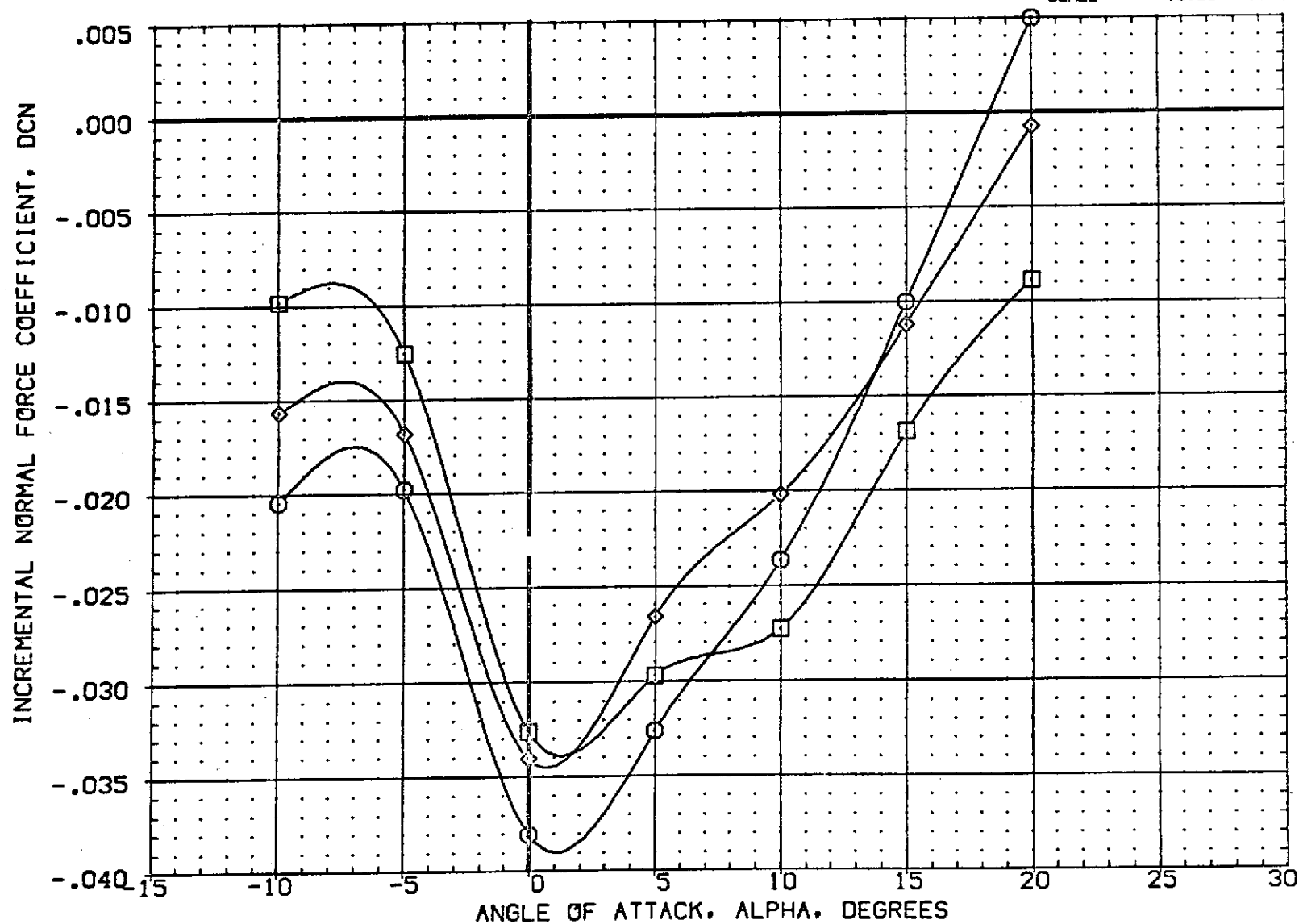


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1026)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RM	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1008)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3690 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

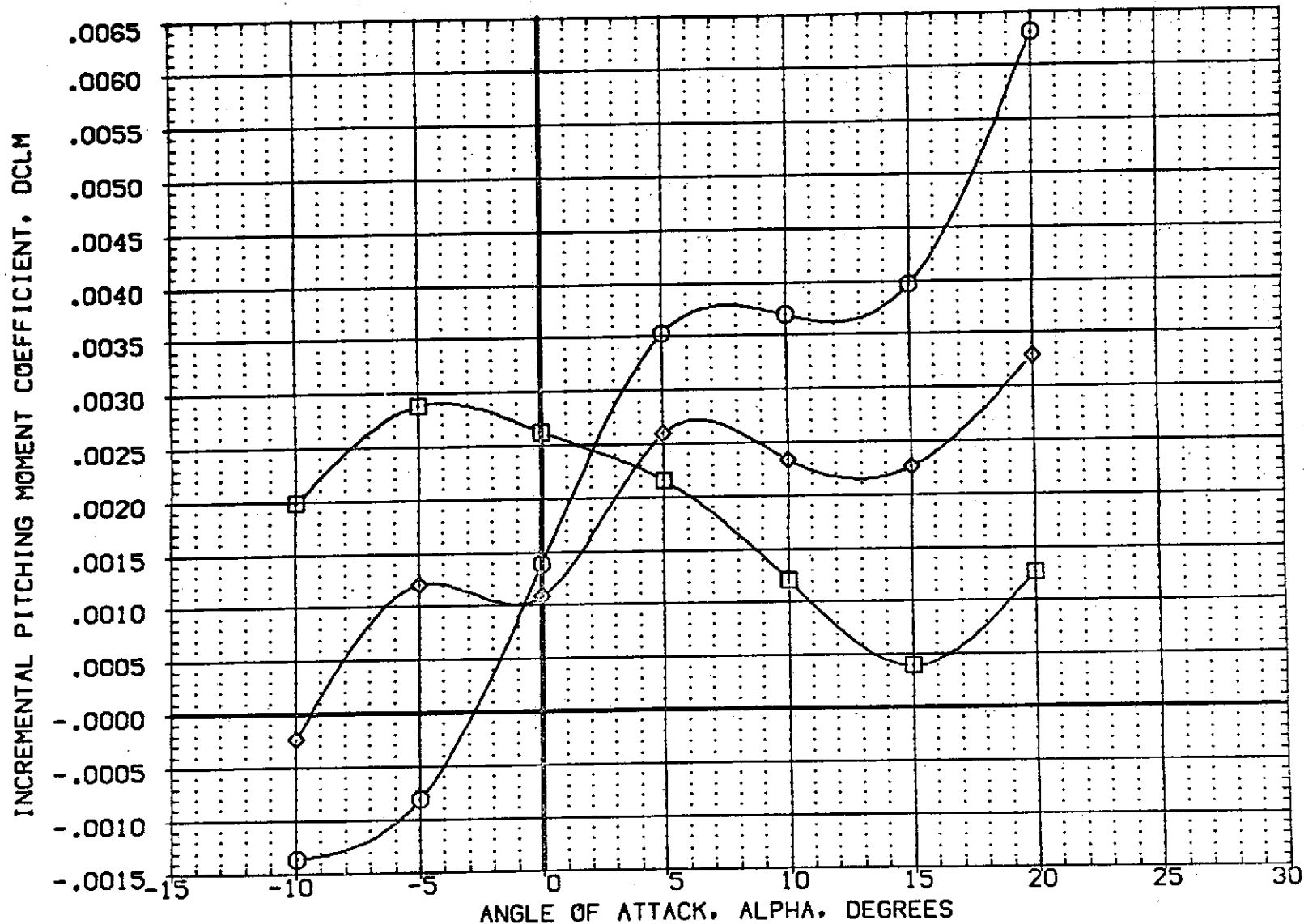


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1026)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1008)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3380 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

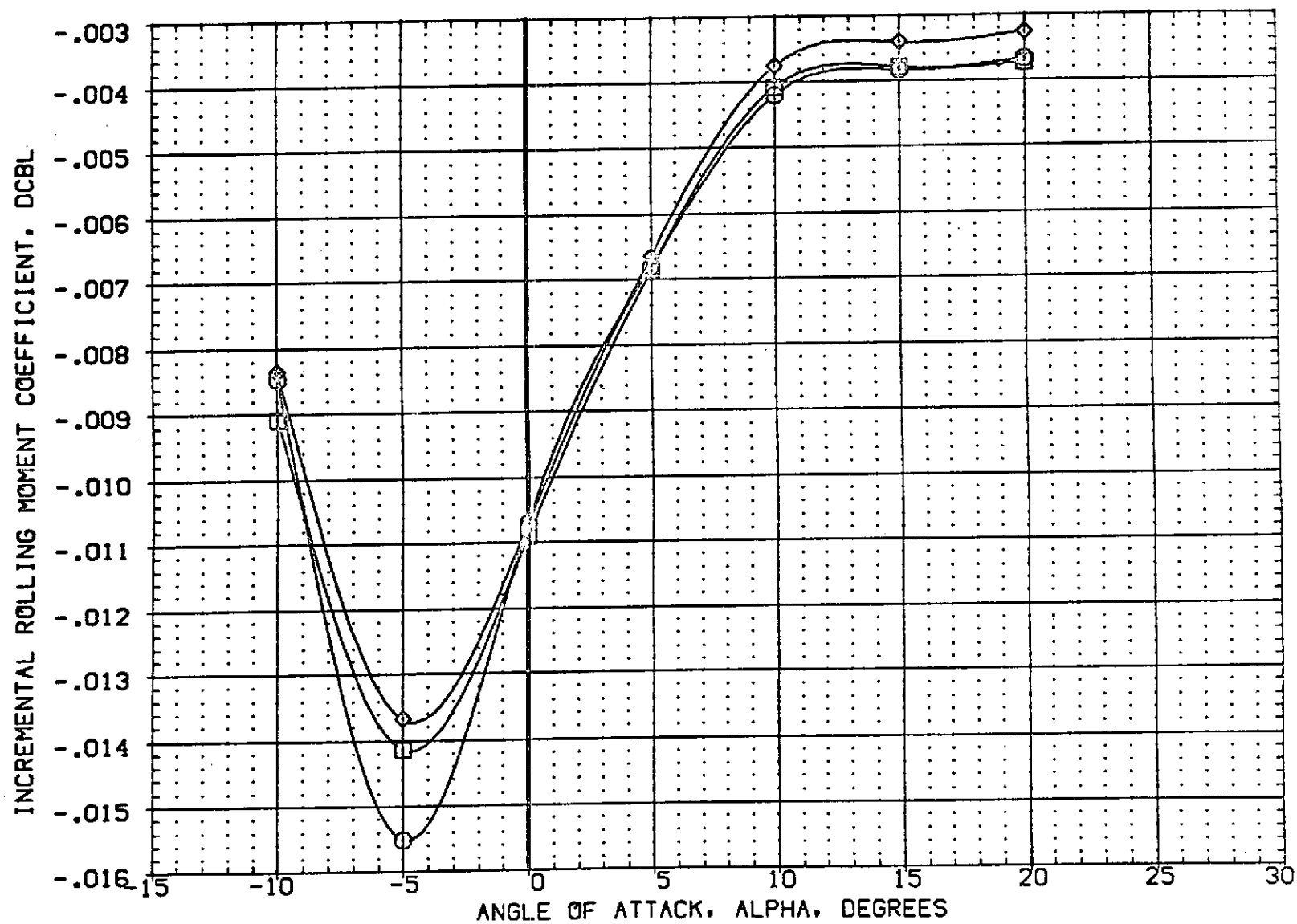


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1026)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP RH	446.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1003)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	15.000	.000	.000	BREF	9.5570	INCHES
						XMRP	7.3880	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

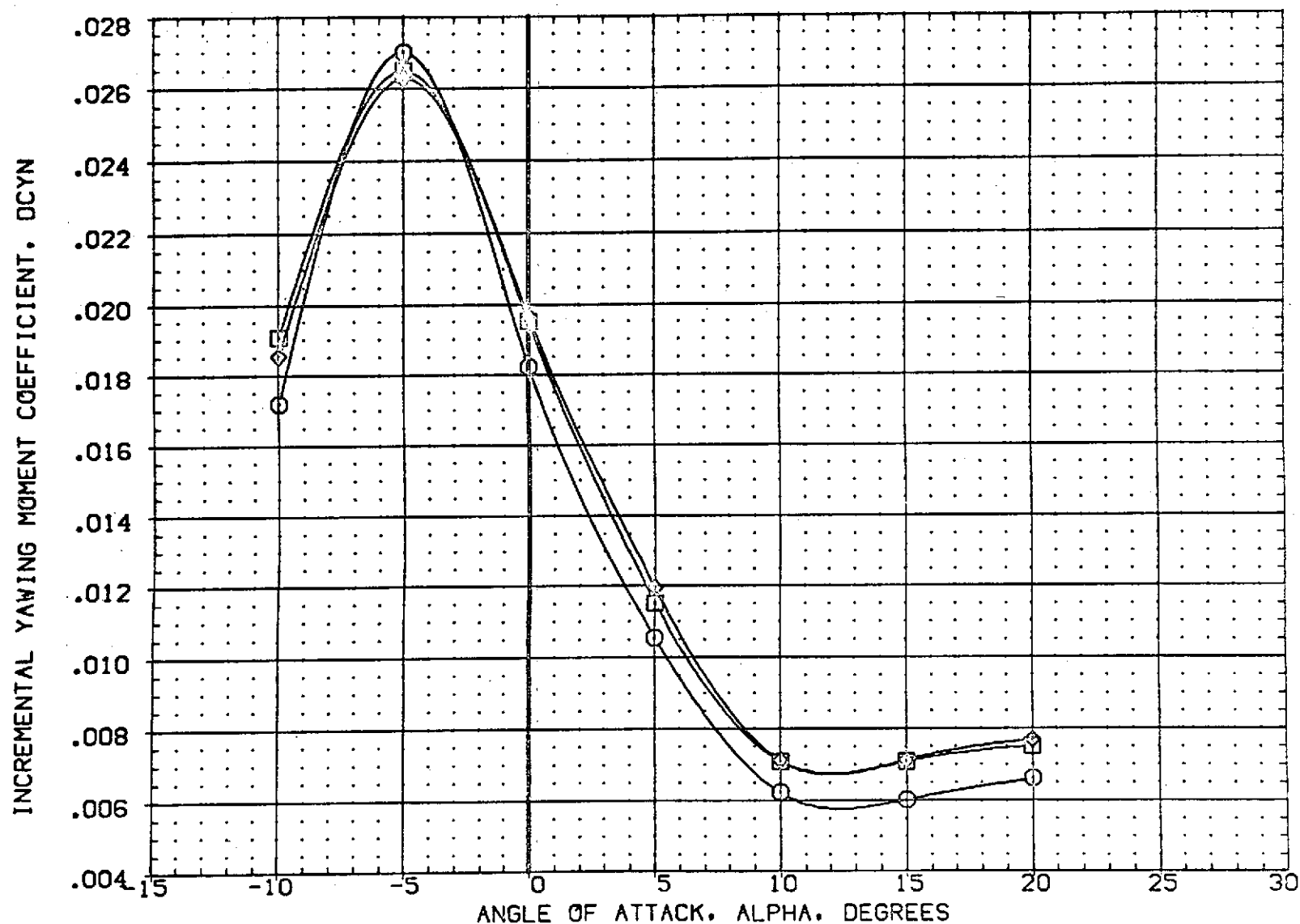


FIG 8 EFFECT OF ELEVON DEFLECTION ON NS2 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(RH126N)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	33.7360	90. IN.
(ZH110N)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7490	INCHES
(RH100N)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3630	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

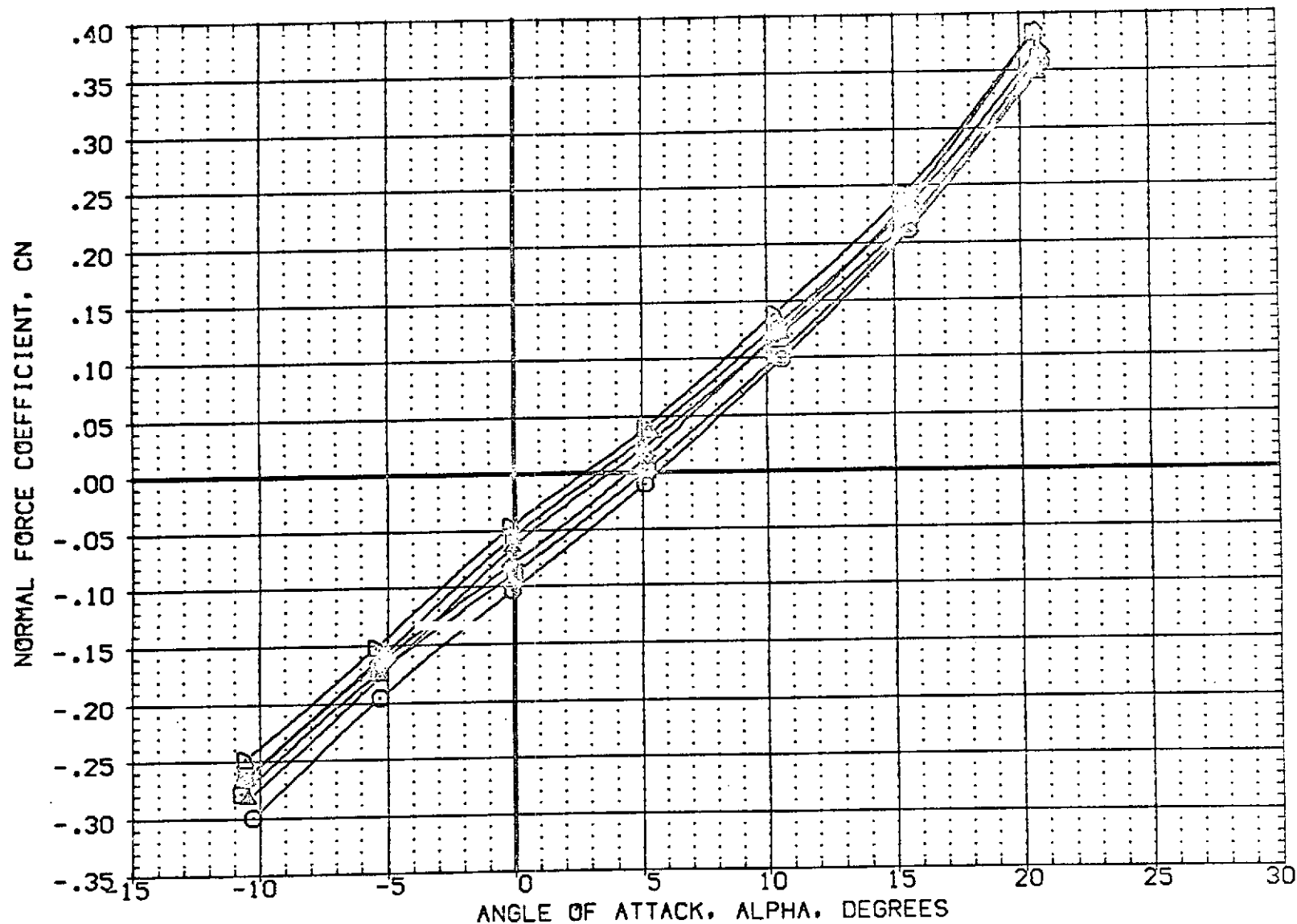


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH126N)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP RH	446.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(ZH110N)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	.000	.000	.000	LREF	4.7480	INCHES
(RH108N)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	15.000	.000	.000	BREF	9.3370	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)NS1 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3330	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-0T (0 T)NS1 RCS OFF	.000	15.000	.000	.000	ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

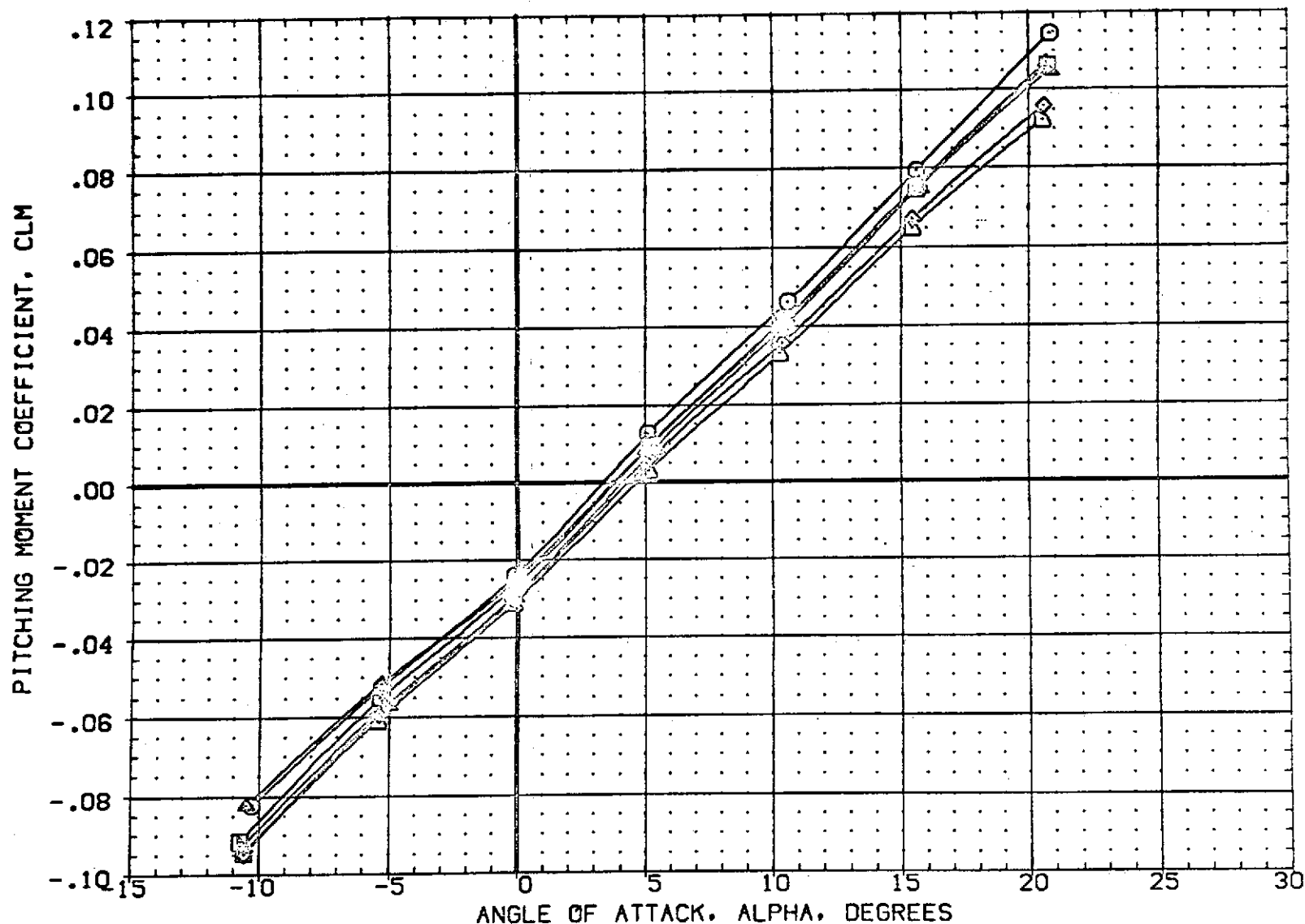


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRCS	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION	
(RH126N)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP RH	446.000	-20.000	.000	.000	SREF	33.7360 SQ.IN.
(ZH110N)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7480 INCHES
(RH108N)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570 INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3580 INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000 INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

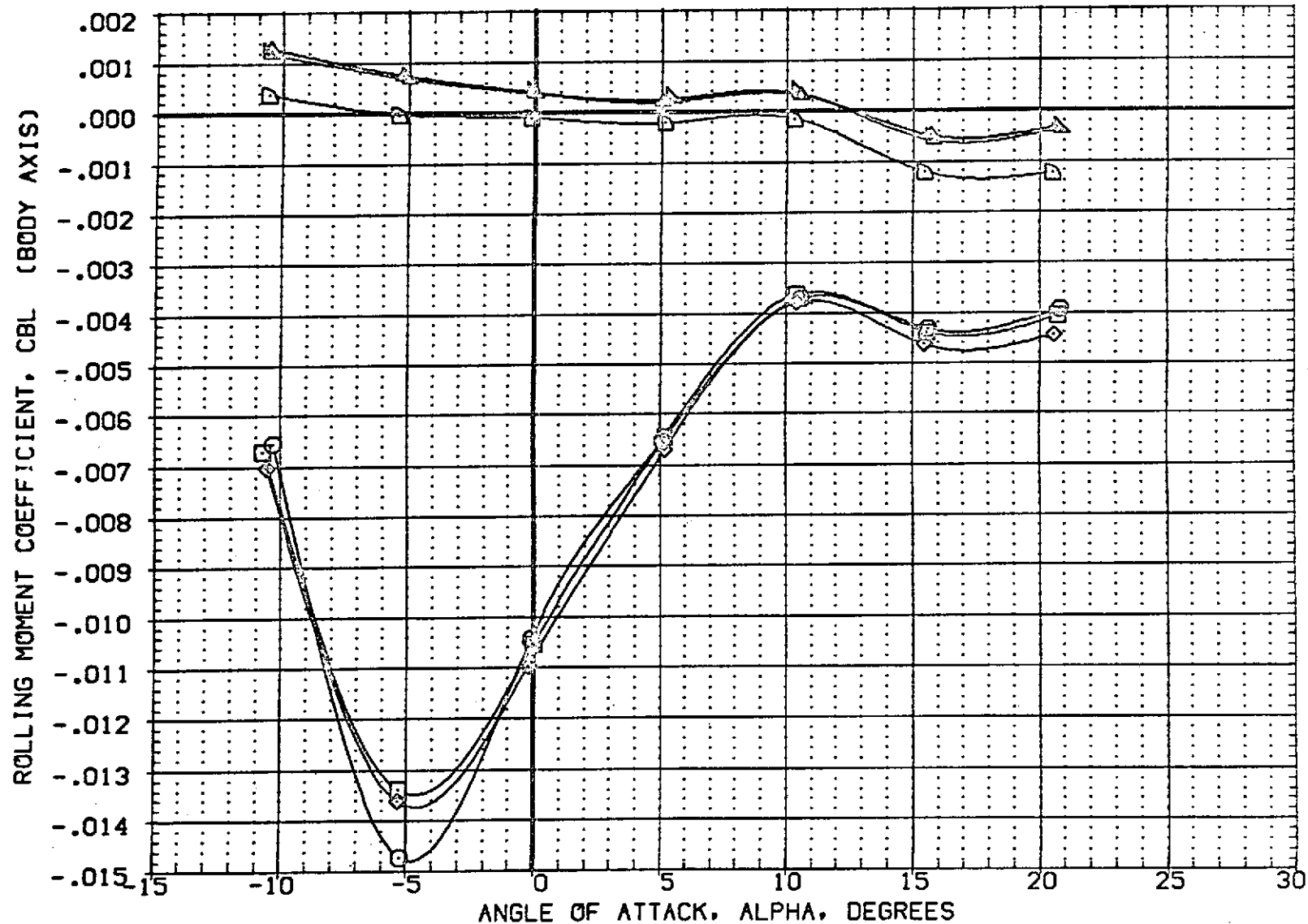


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH126N)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	-20.000	.000	.000	SREF	38.7360	SQ. IN.
(ZH110N)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	.000	.000	.000	LREF	4.7400	INCHES
(RH108N)	IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-OT (O T)N51 RCS OFF	.000	-20.000	.000	.000	YMRP	7.3590	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (O T)N52 RCS OFF	.000	.000	.000	.000	ZMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (O T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

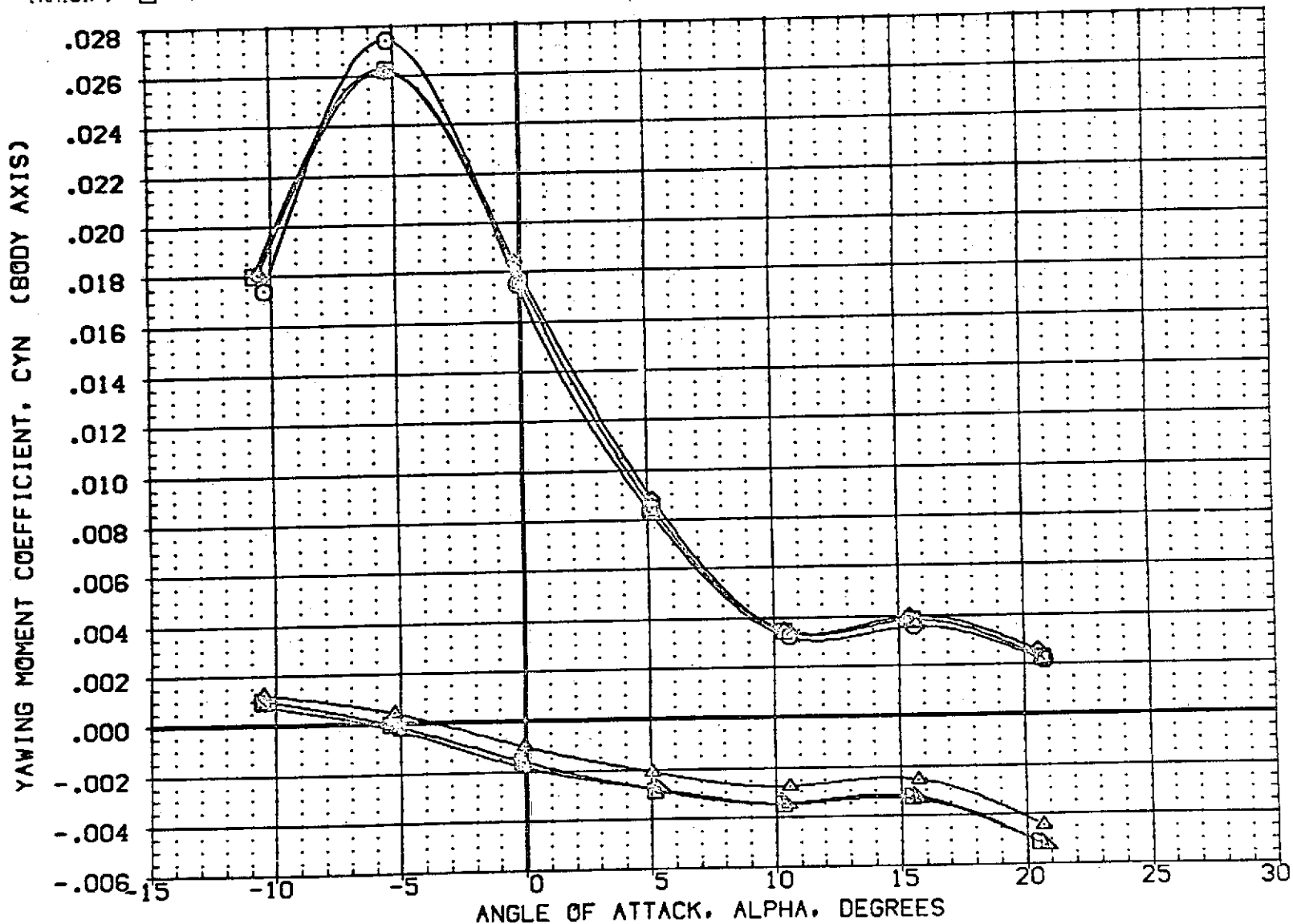


FIG 8 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION,  $Q_{SIM} = 7$  PSF  
 (A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1009)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1007)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3530 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

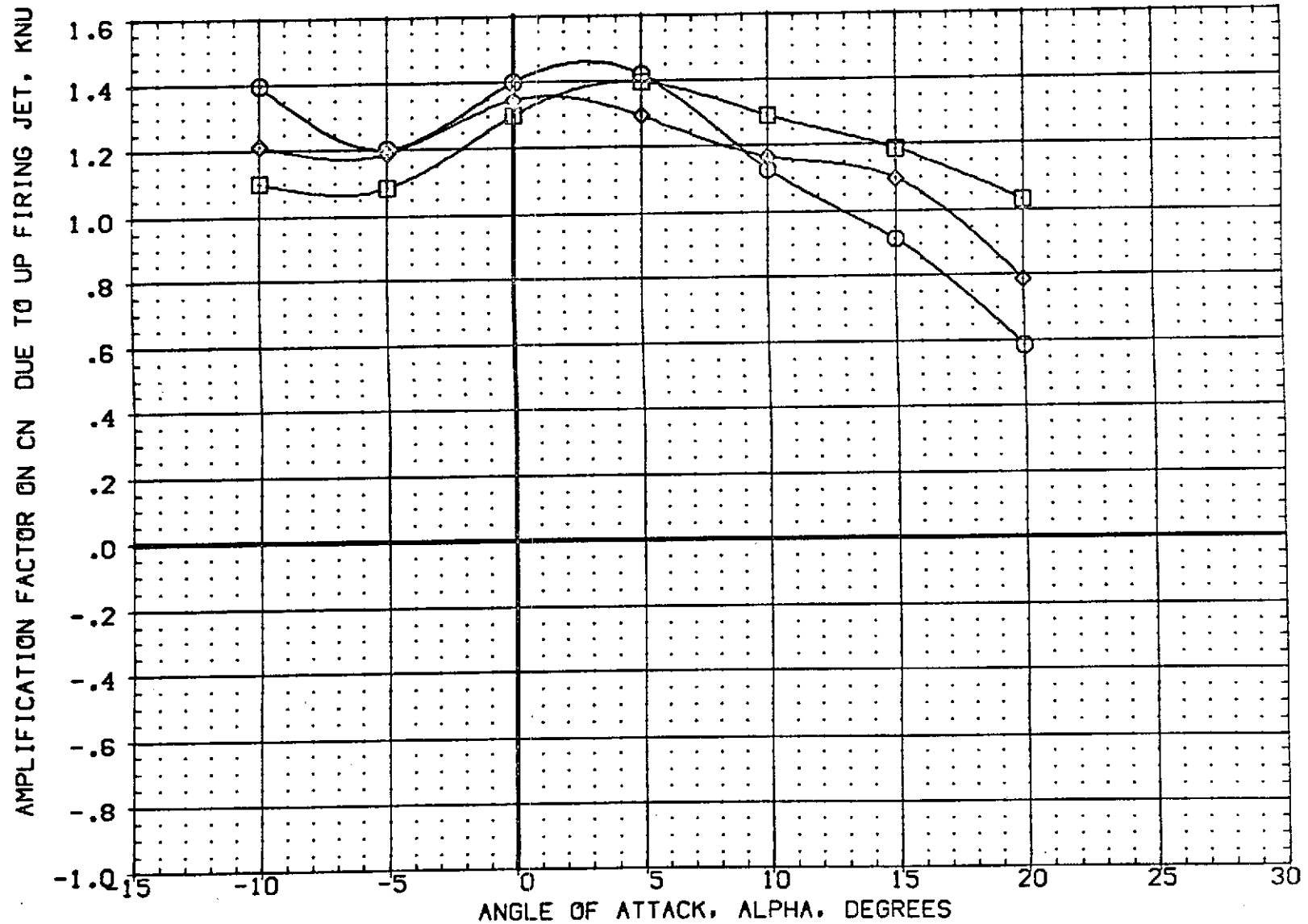


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1025)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(CH1009)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1007)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9040	INCHES
						SCALE	.0100	SCALE

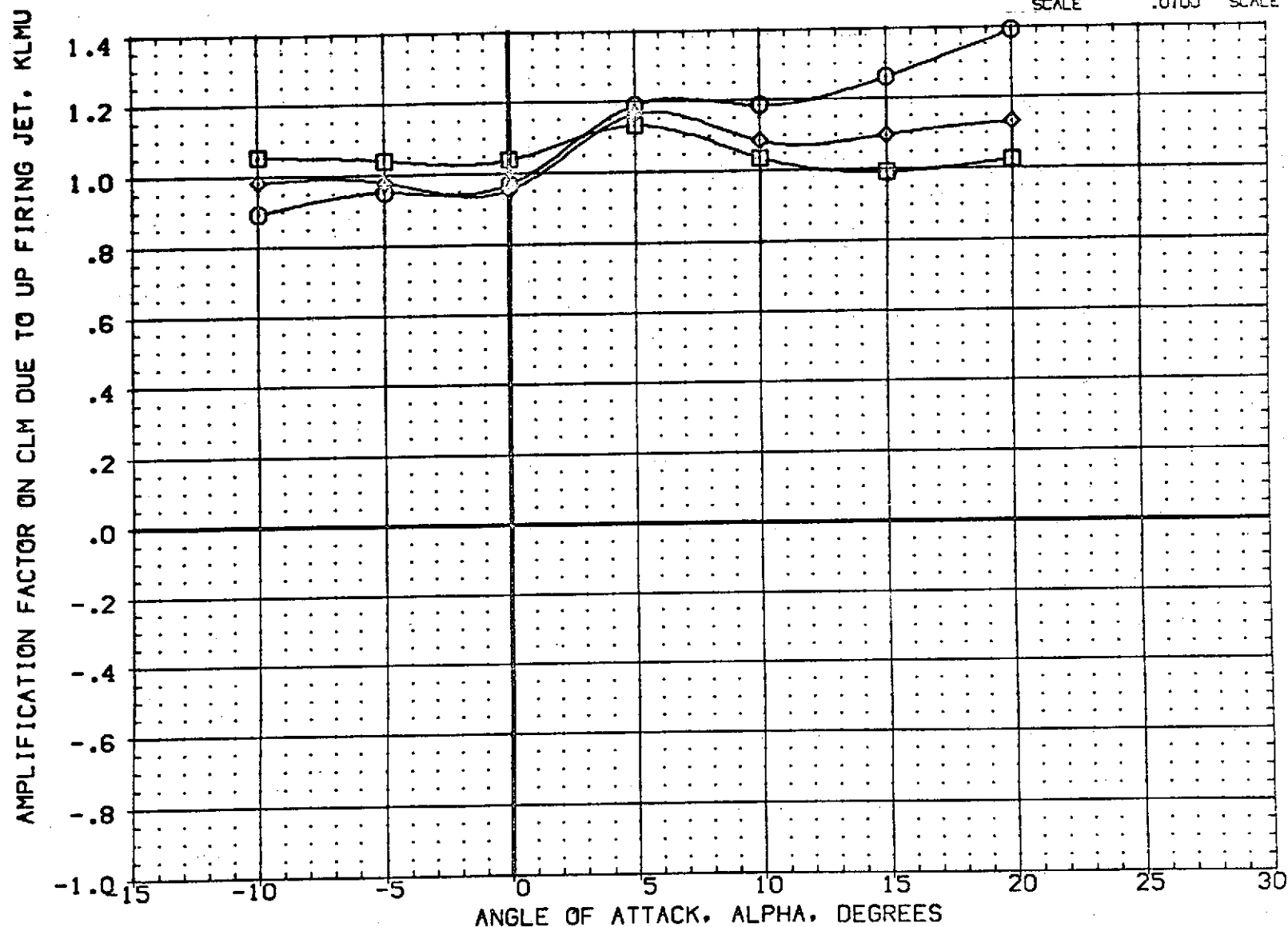


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP RH	158.000	-20.000	.000	.000	SREF	39.7380 SQ. IN.
(CH1009)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	158.000	.000	.000	.000	LREF	4.7490 INCHES
(CH1007)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	159.000	15.000	.000	.000	BREF	9.2370 INCHES
						XMRP	7.3600 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9840 INCHES
						SCALE	.0100 SCALE

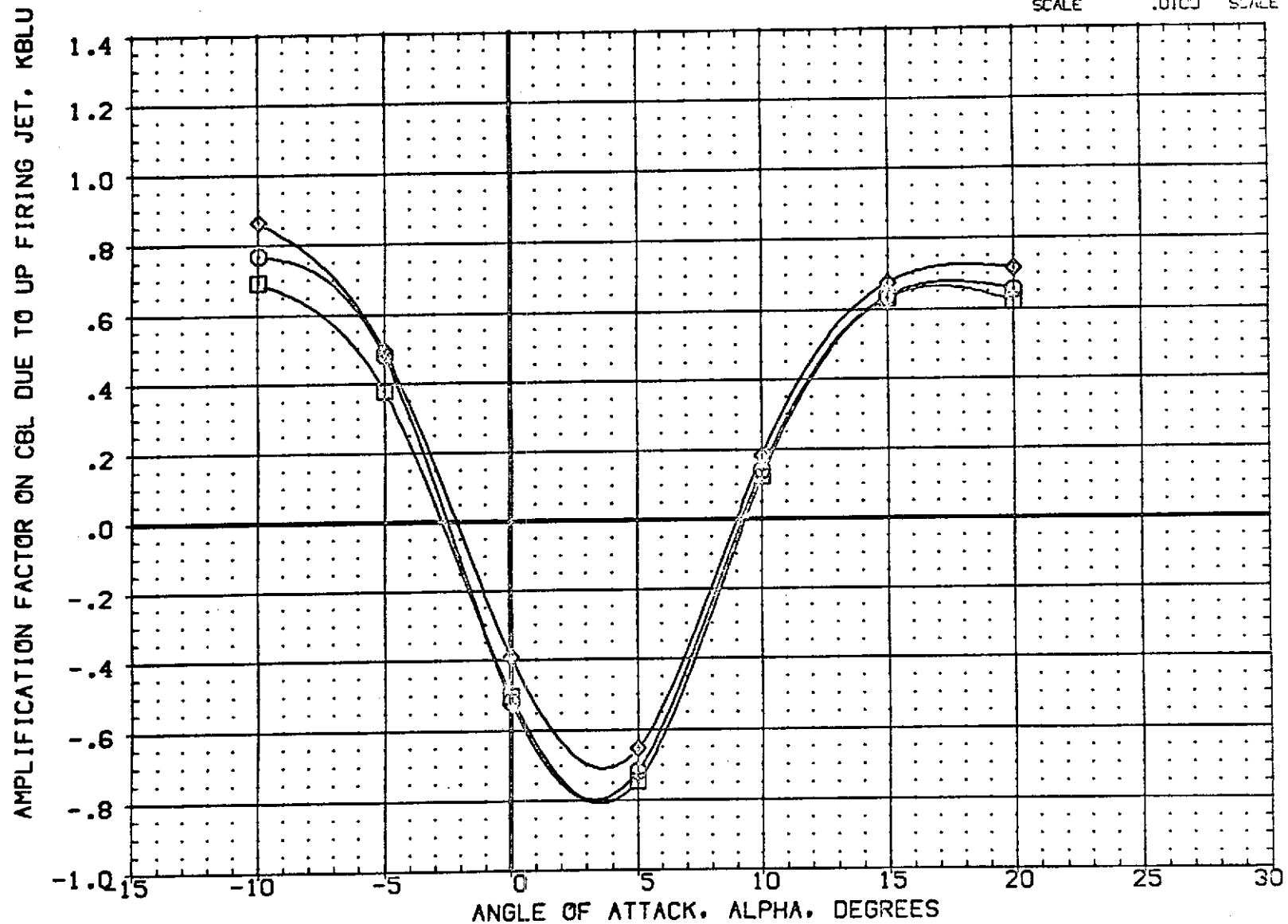


FIG 9 EFFECT OF ELEVON DEFLECTION ON NS2 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1009)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1007)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3360 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9840 INCHES
						SCALE	.0100 SCALE

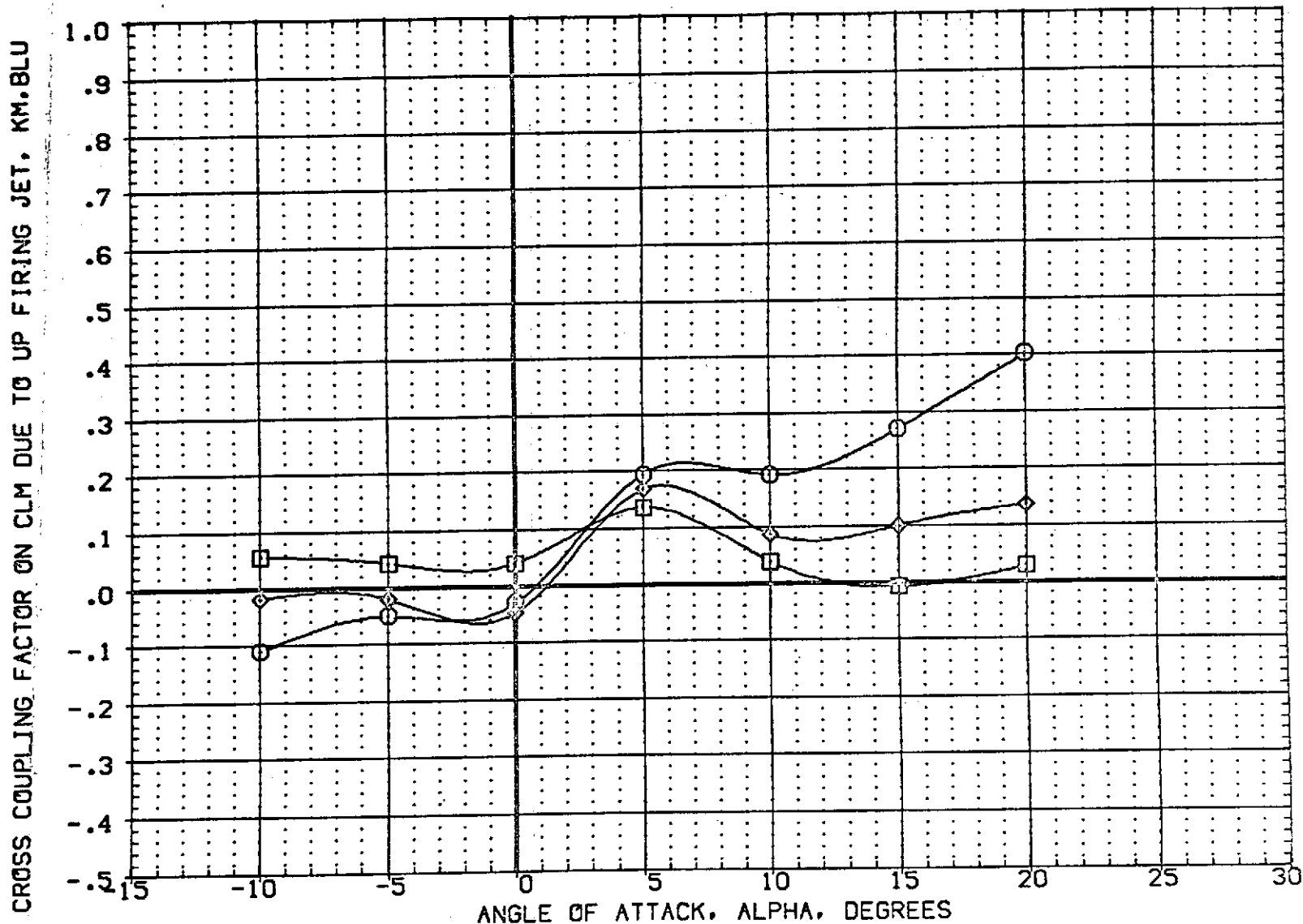


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1009)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1007)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.2670 INCHES
						XMRP	7.3800 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5340 INCHES
						SCALE	.0100 SCALE

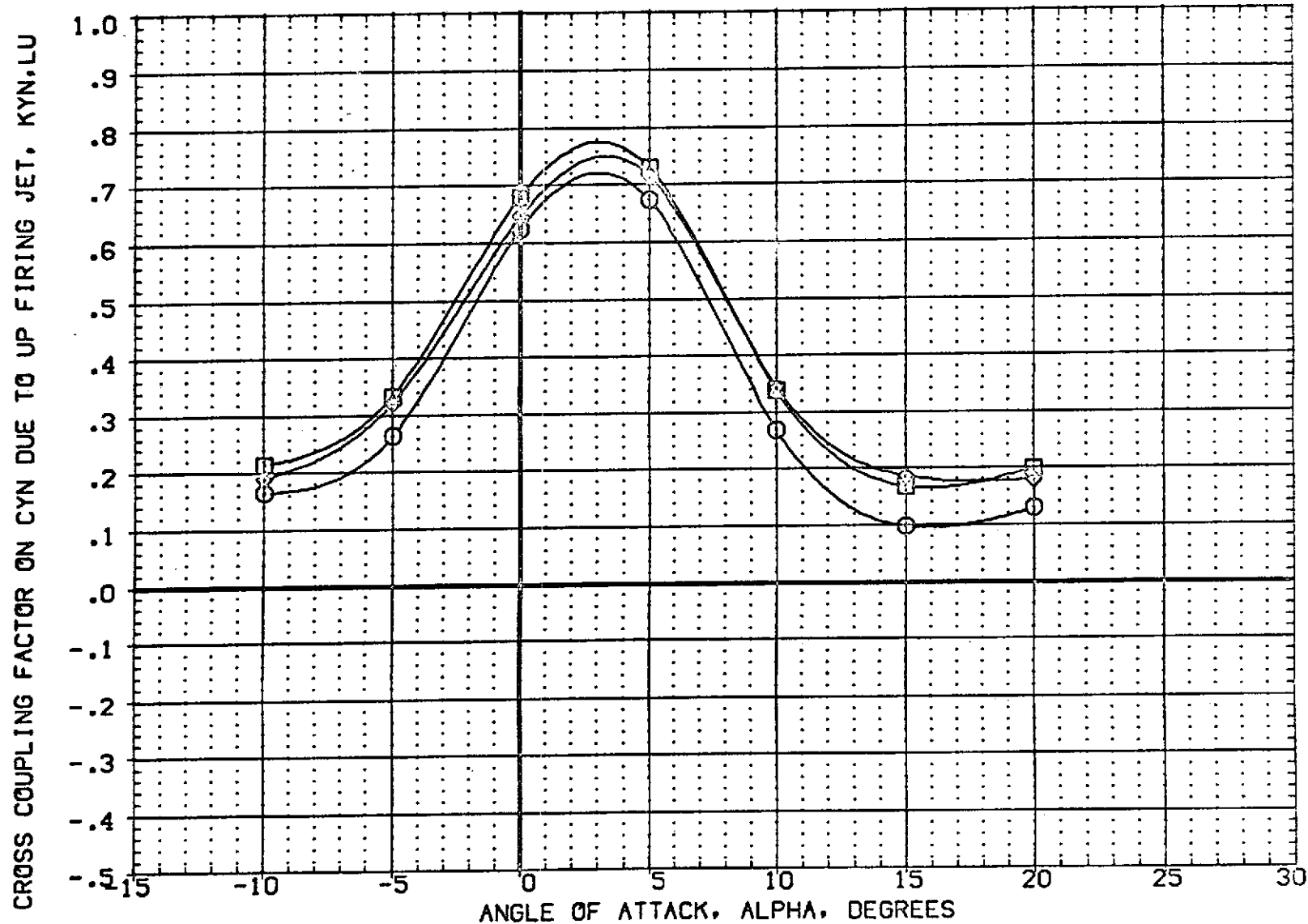


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1025)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7460 INCHES
(CH1007)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3360 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

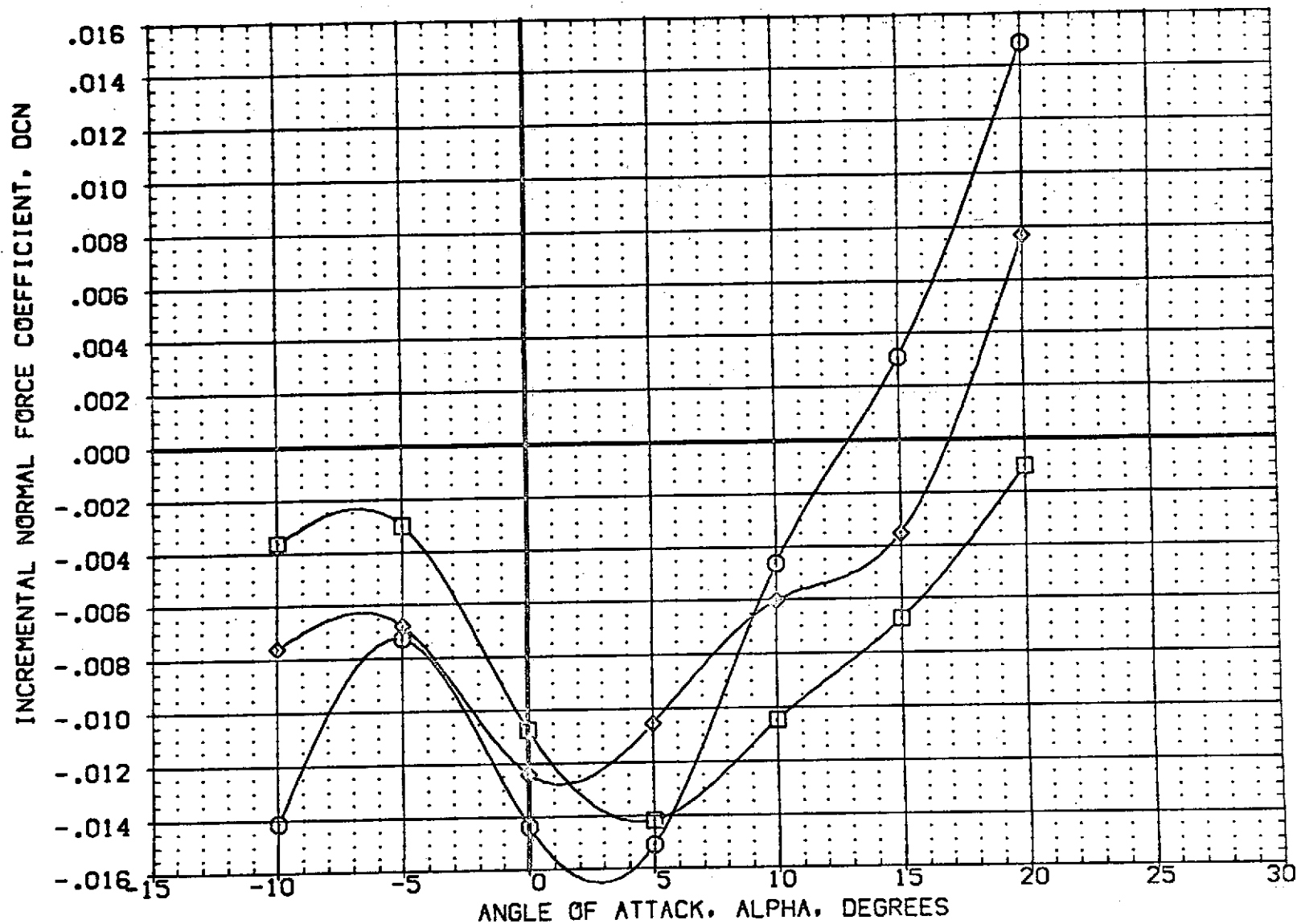


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7350 SQ. IN.
(CH1009)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7450 INCHES
(CH1007)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	EREF	9.3570 INCHES
						XMRP	7.3220 INCHES
						YMRP	.0000 INCHES
						ZMRP	.0000 INCHES
						SCALE	.0100 SCALE

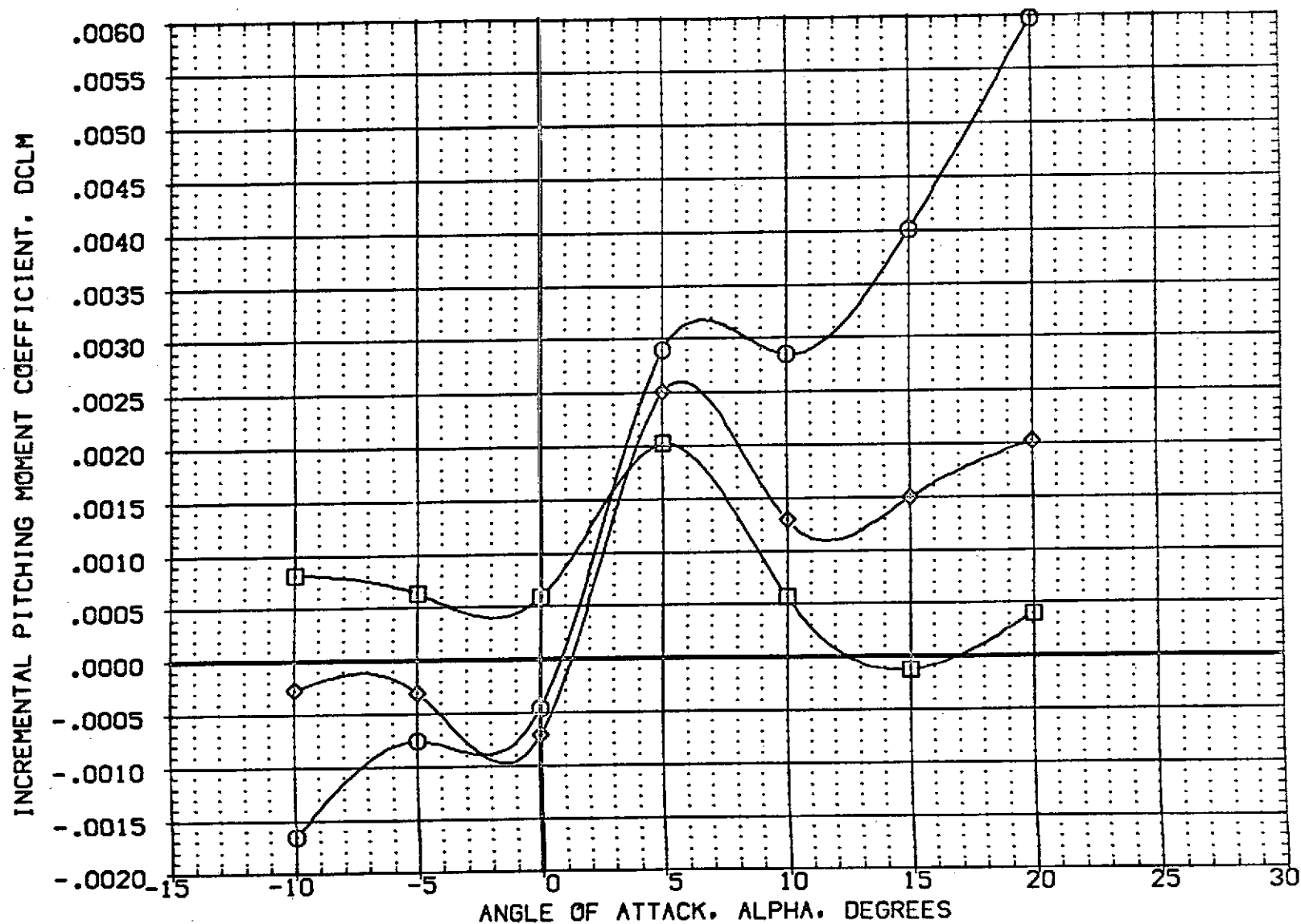


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1025)	1A-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP RH	159.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1009)	1A-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	159.000	.000	.000	.000	LREF	4.7450 INCHES
(CH1007)	1A-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	158.000	15.000	.000	.000	BREF	9.9670 INCHES
						XMRP	7.3500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.8940 INCHES
						SCALE	.0100 SCALE

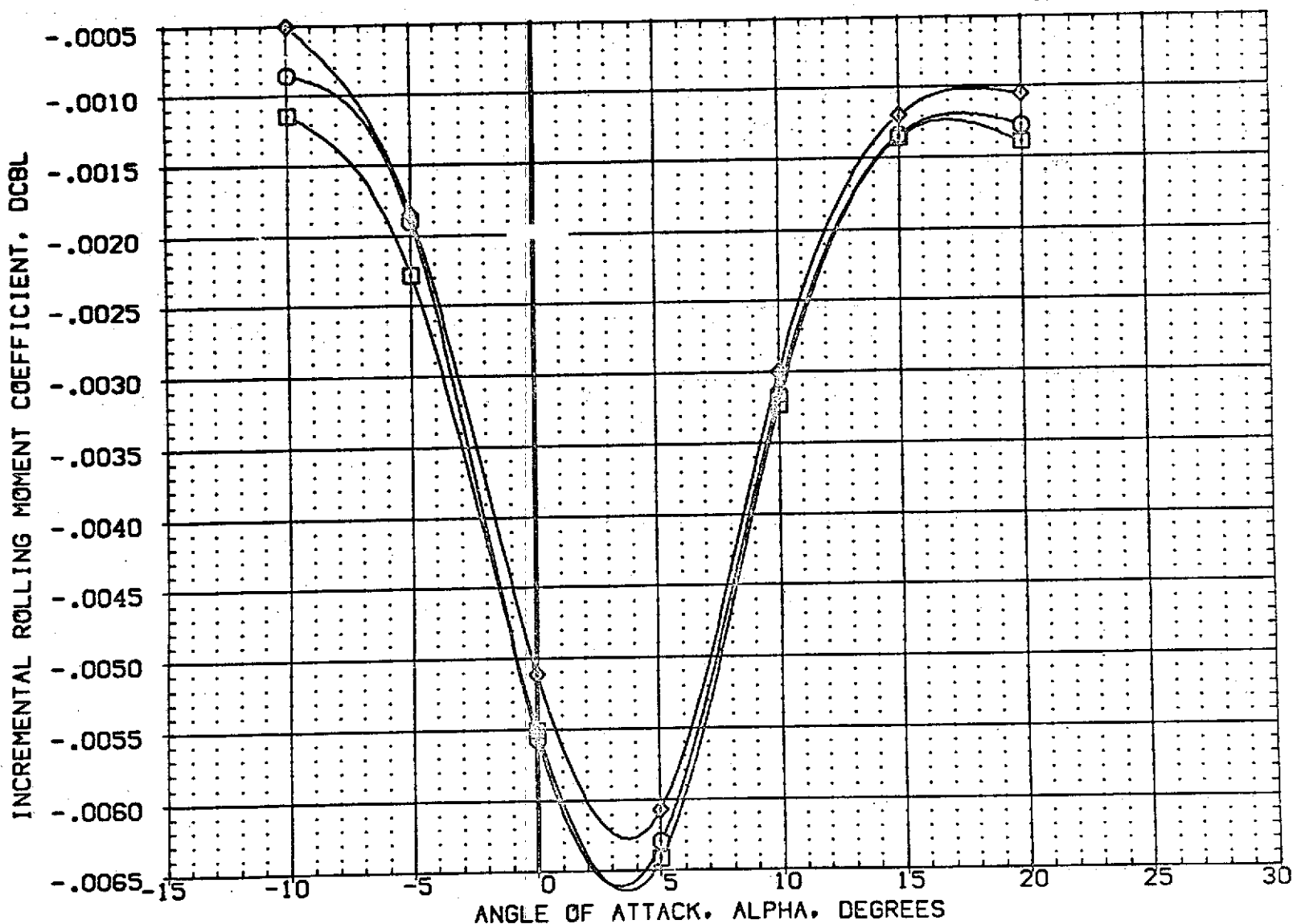


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1025)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	159.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1009)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1007)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	159.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3320 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

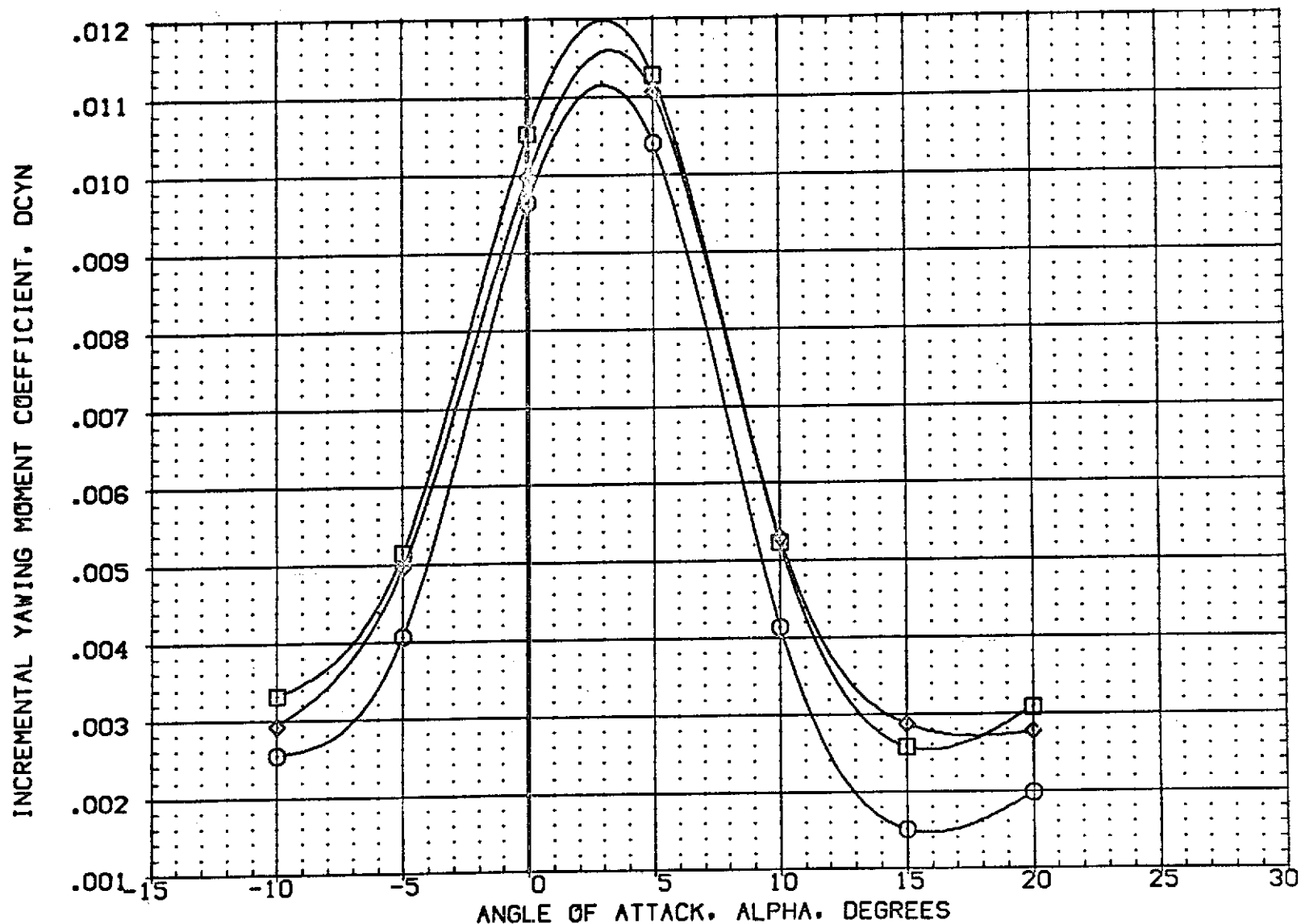


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH125N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	39.7360	SQ. IN.
(RH109N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	.000	LREF	4.7480	INCHES
(RH107N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3690	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

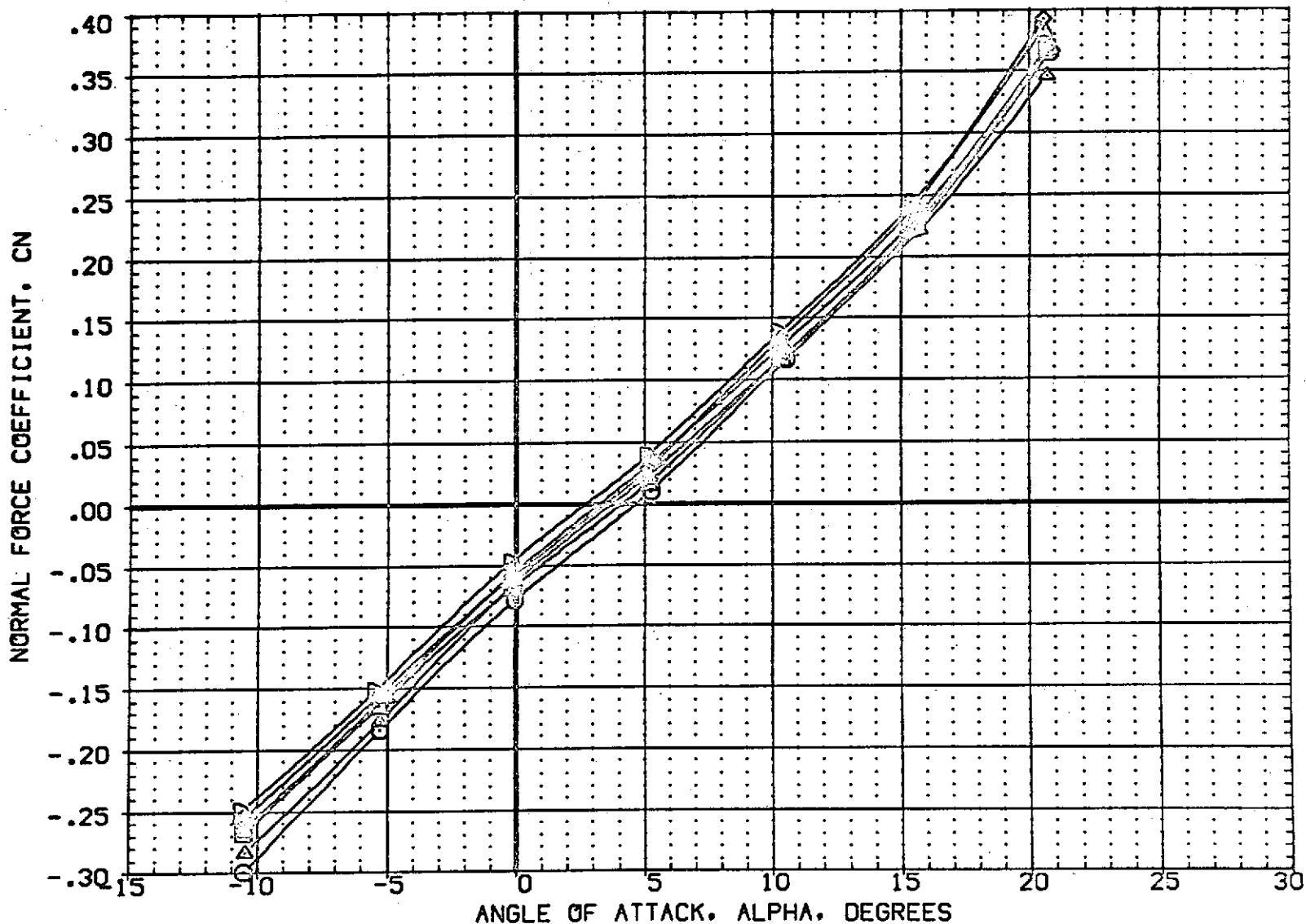


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION,  $Q_{SIM} = 20$  PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION		
(RH125N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	159.000	-20.000	.000	.000	SREF	38.7350	50. IN.
(RH109N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	.000	LREF	4.7400	INCHES
(RH107N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.2570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XGRP	7.2550	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YGRP	.0000	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZGRP	.9910	INCHES
						SCALE	.0100	SCALE

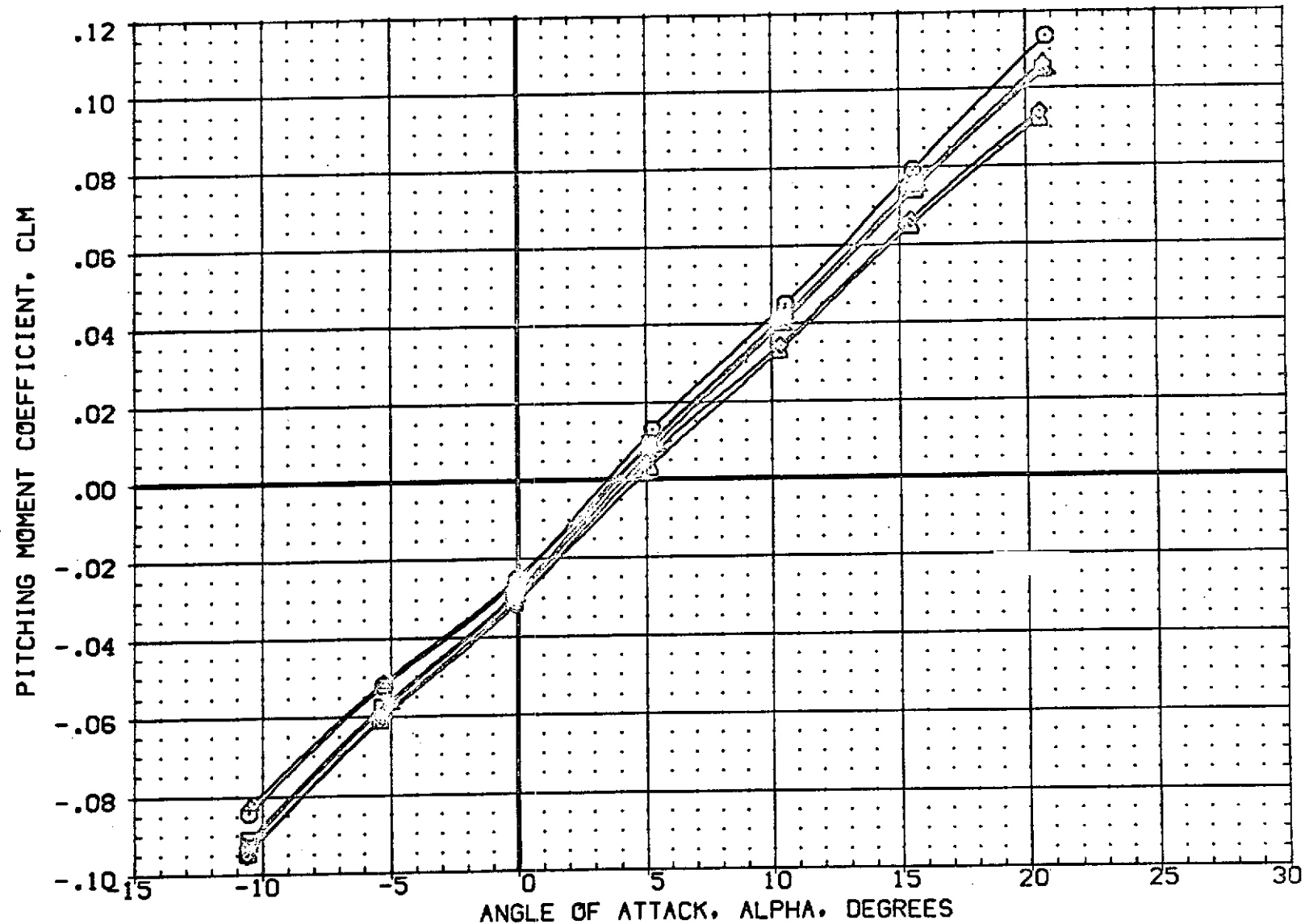


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION
(RH125N)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP RH	159.000	-20.000	.000	.000	SREF 38.7350 SQ. IN.
(RH109N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	159.000	.000	.000	.000	LREF 4.7460 INCHES
(RH107N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 PITCH UP	158.000	15.000	.000	.000	BREF 9.3670 INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	-20.000	.000	.000	XMRP 7.3800 INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	YMRP .0000 INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	15.000	.000	.000	ZMRP .5940 INCHES
						SCALE .0100 SCALE

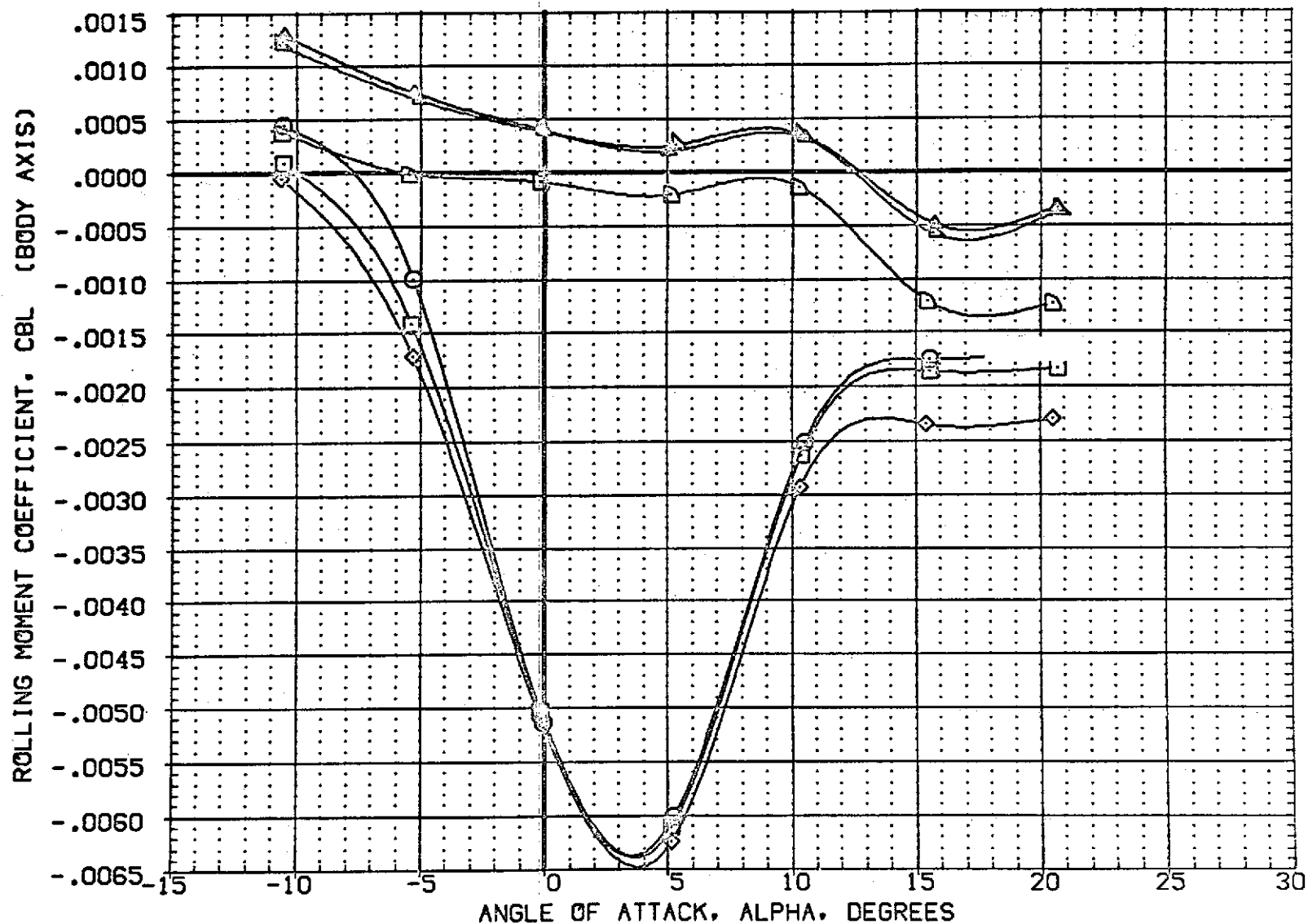


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(R4125N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP RH	158.000	-20.000	.000	.000	SREF	38.7360	SQ. IN.
(R4109N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	LREF	4.7480	INCHES
(R4107N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	15.000	.000	.000	BREF	9.3570	INCHES
(R4103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3500	INCHES
(R4102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(R4101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

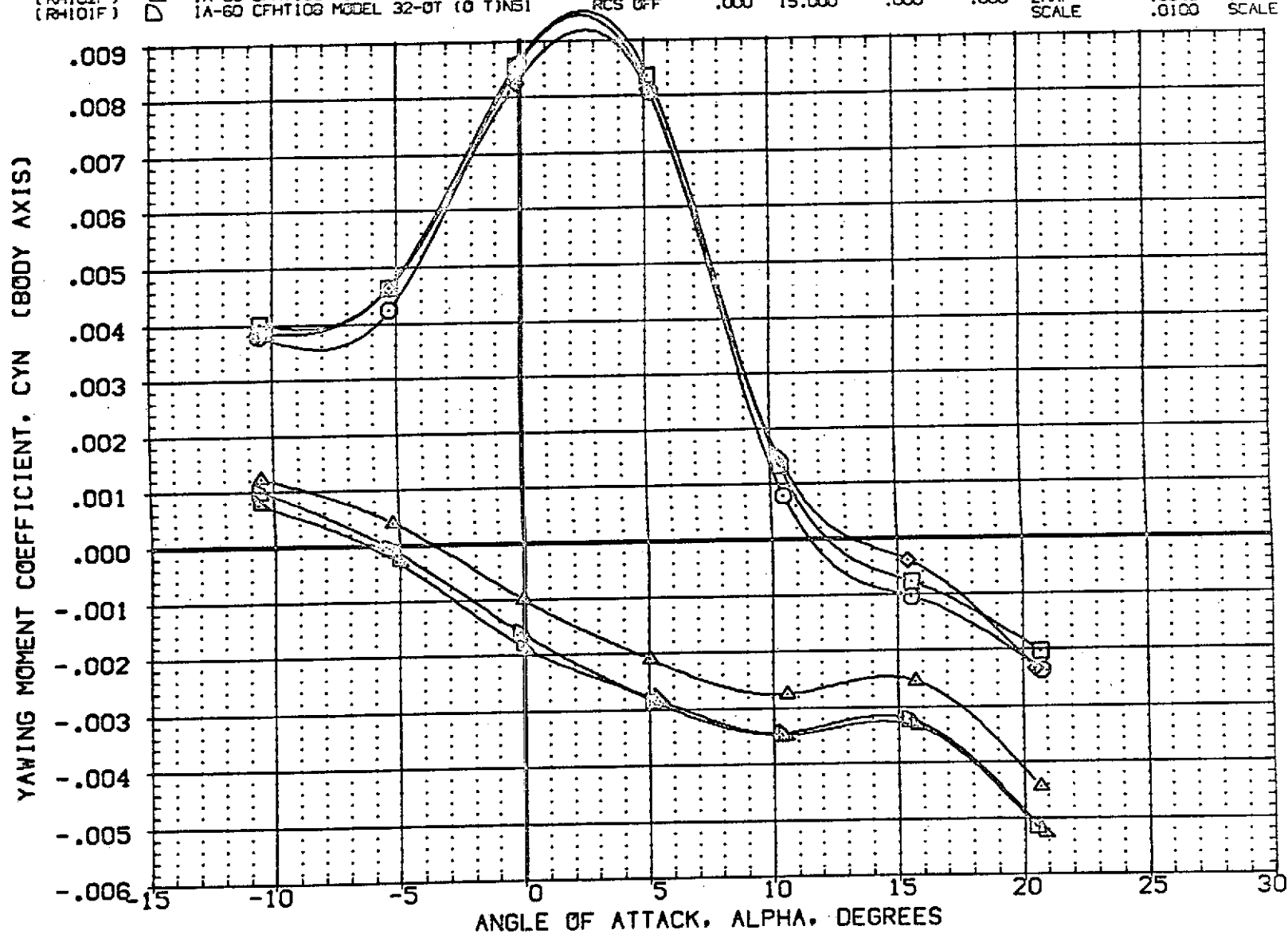


FIG 9 EFFECT OF ELEVON DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1010)	1A-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	38.7380	SQ. IN.
(CH1030)	1A-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7480	INCHES
						BREF	9.3670	INCHES
						XMRP	7.3620	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

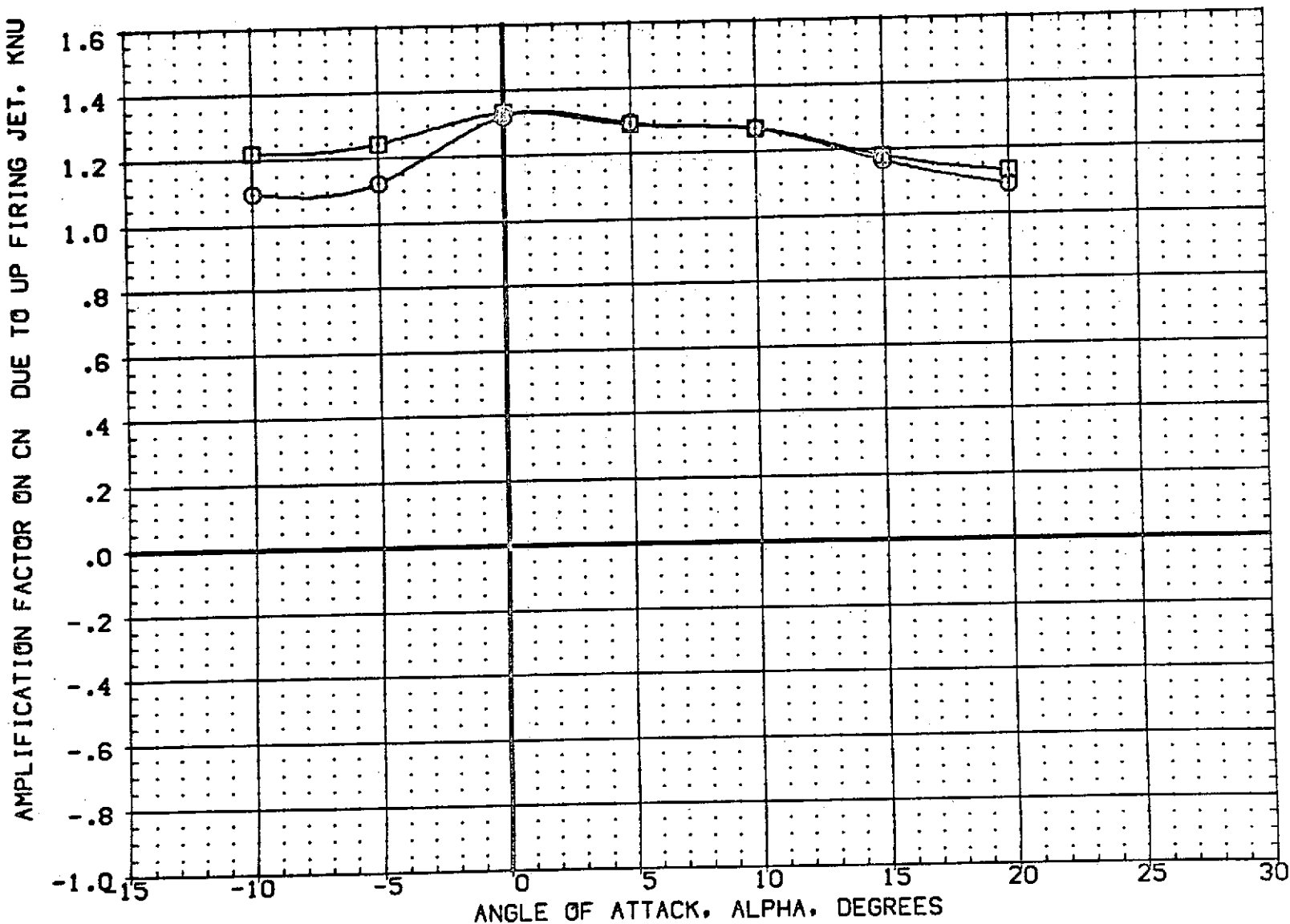


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1010)	○ 1A-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	.000	.000	.000	SREF	33.7360	50. IN.
(CH1030)	□ 1A-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7460	INCHES
						BREF	9.2670	INCHES
						XMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

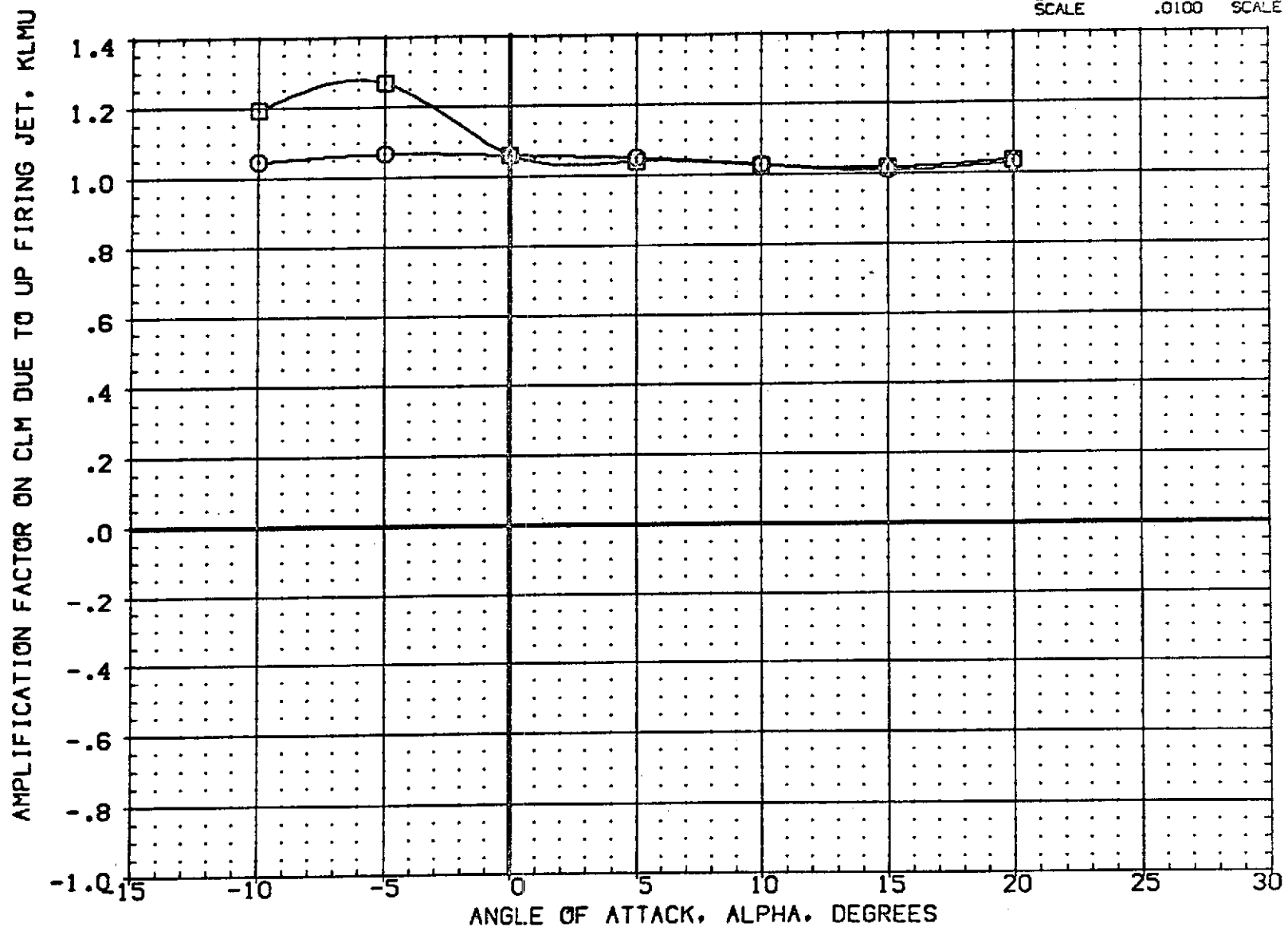


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1010)	1A-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	.000	.000	.000	SREF	39.7330	50. IN.
(CH1030)	1A-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	446.000	.000	.000	55.000	LREF	4.7480	INCHES
						BREF	9.3670	INCHES
						XMRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

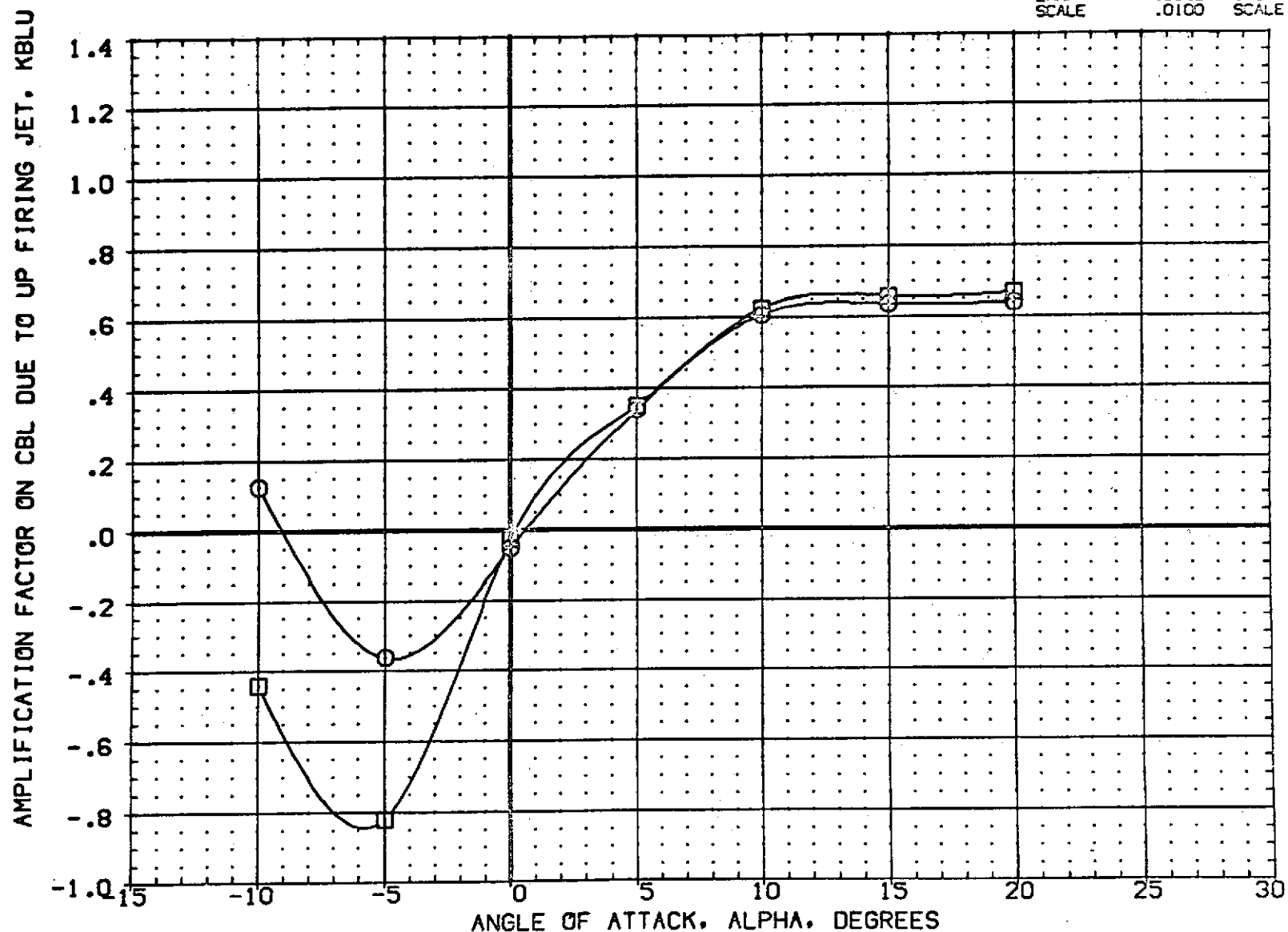


FIG 10 EFFECT OF SPOBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1010)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1030)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7420 INCHES
						EREF	9.3570 INCHES
						XMRP	7.3600 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

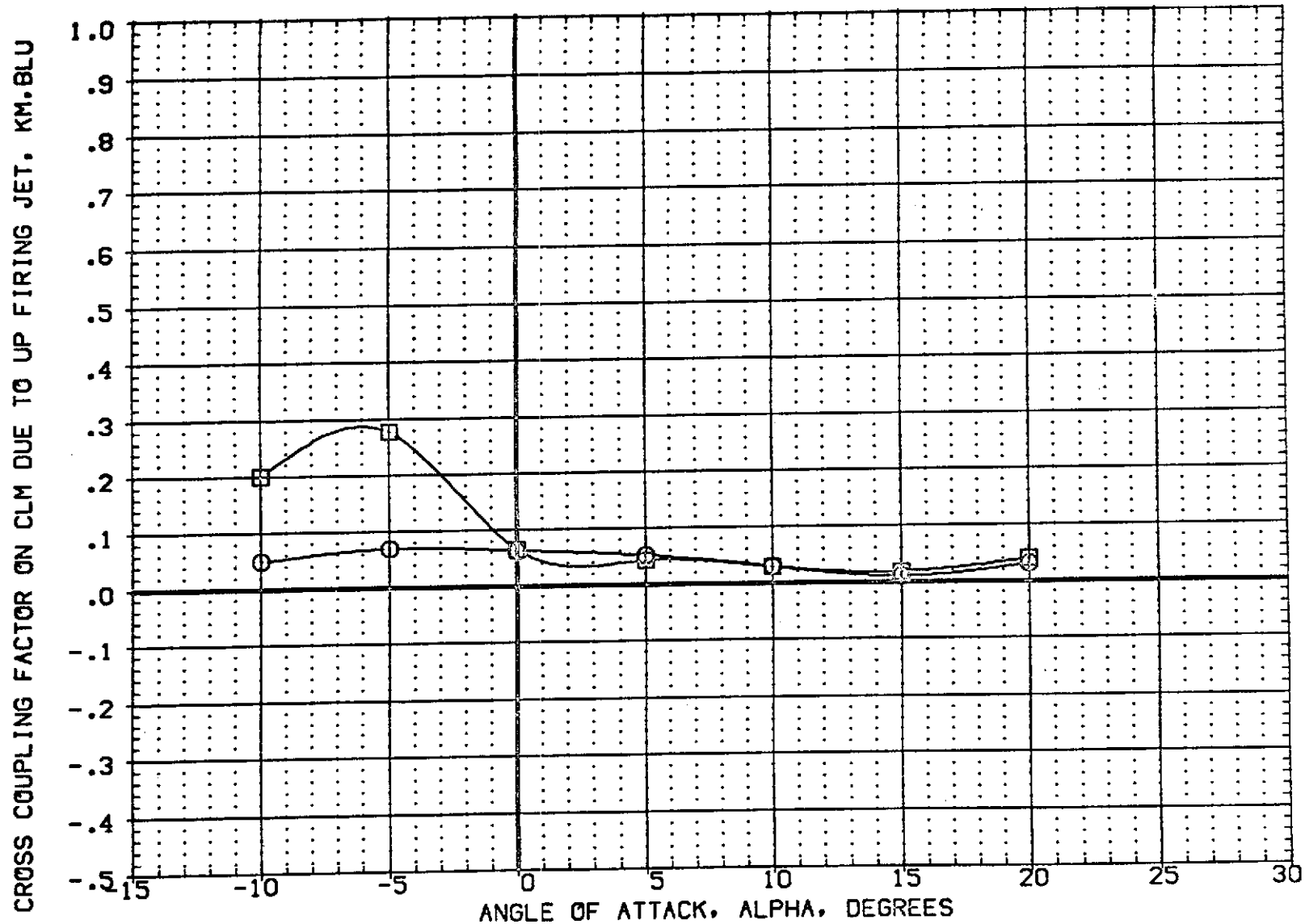


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCOCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1010)	1A-60 CFHT108 MODEL 32-OT (0 T)NS2 PITCH UP	446.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1030)	1A-60 CFHT108 MODEL 32-OT (0 T)NS2 PITCH UP	446.000	.000	.000	55.000	LREF	4.7460 INCHES
						BREF	9.3570 INCHES
						XMCP	7.3680 INCHES
						YMCP	.0000 INCHES
						ZMCP	.0000 INCHES
						SCALE	.0100 SCALE

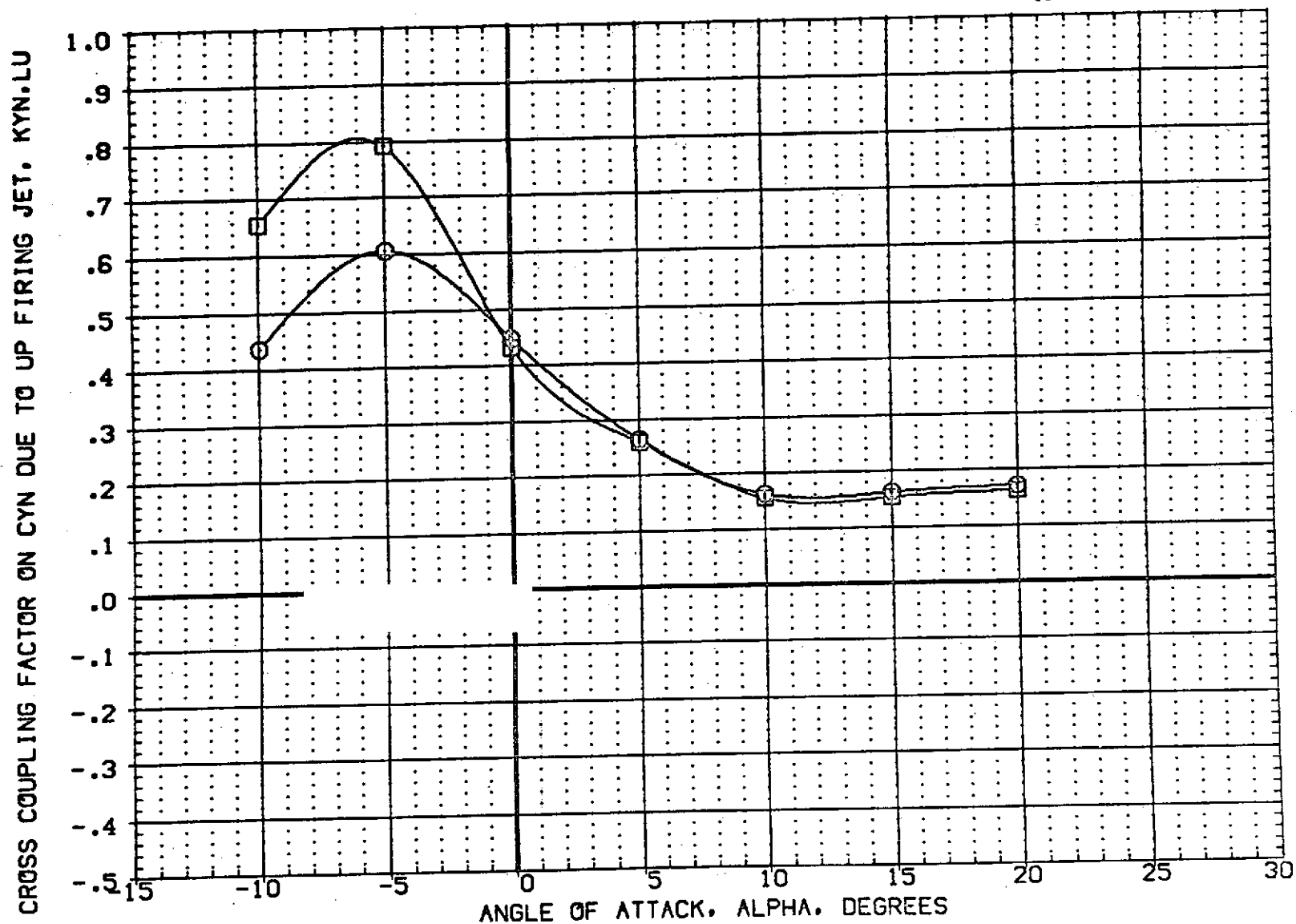


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1010)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	39.7330 SQ. IN.
(CH1030)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7480 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5840 INCHES
						SCALE	.0100 SCALE

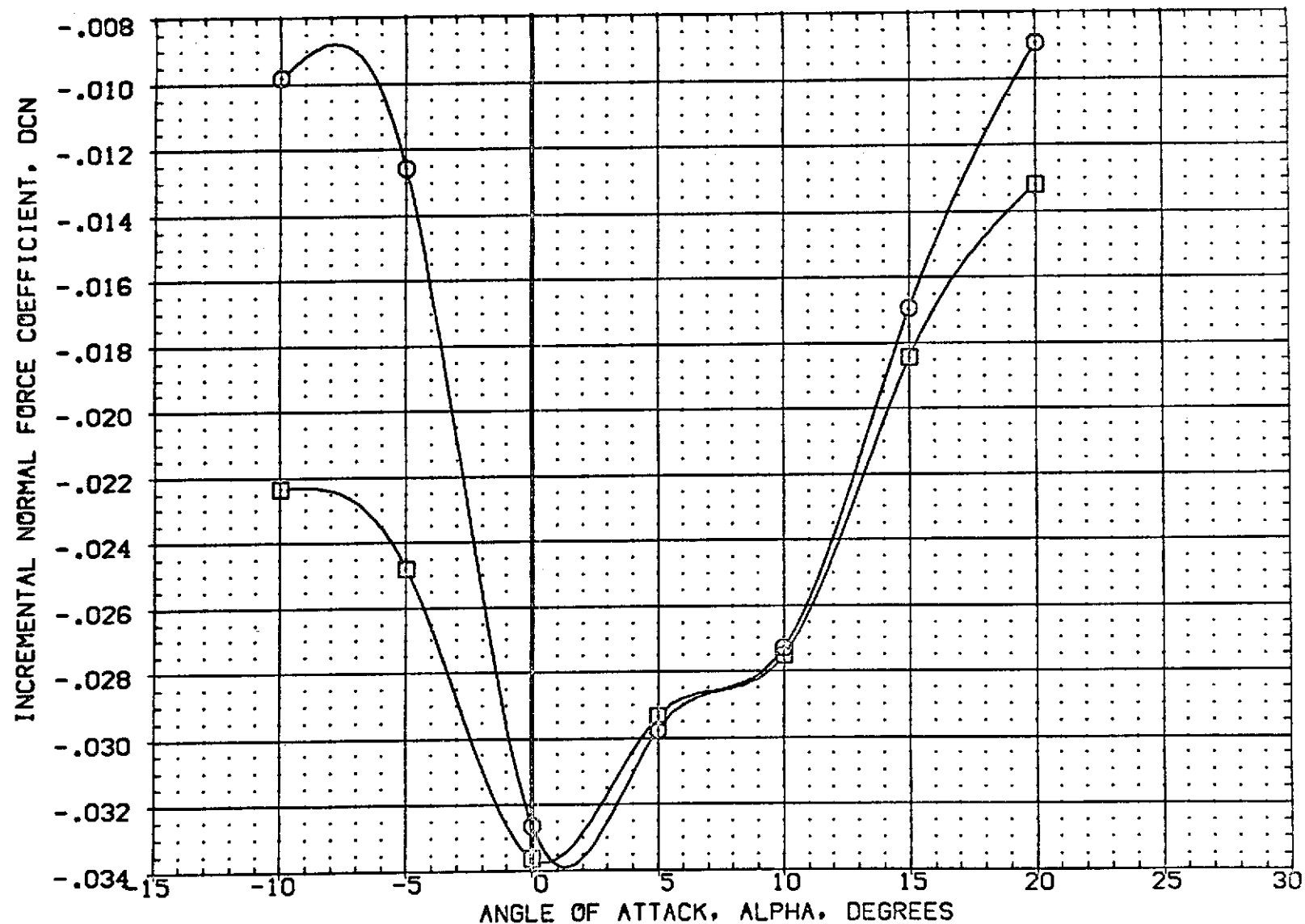


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1010)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	39.7360	50. IN.
(CH1030)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7420	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

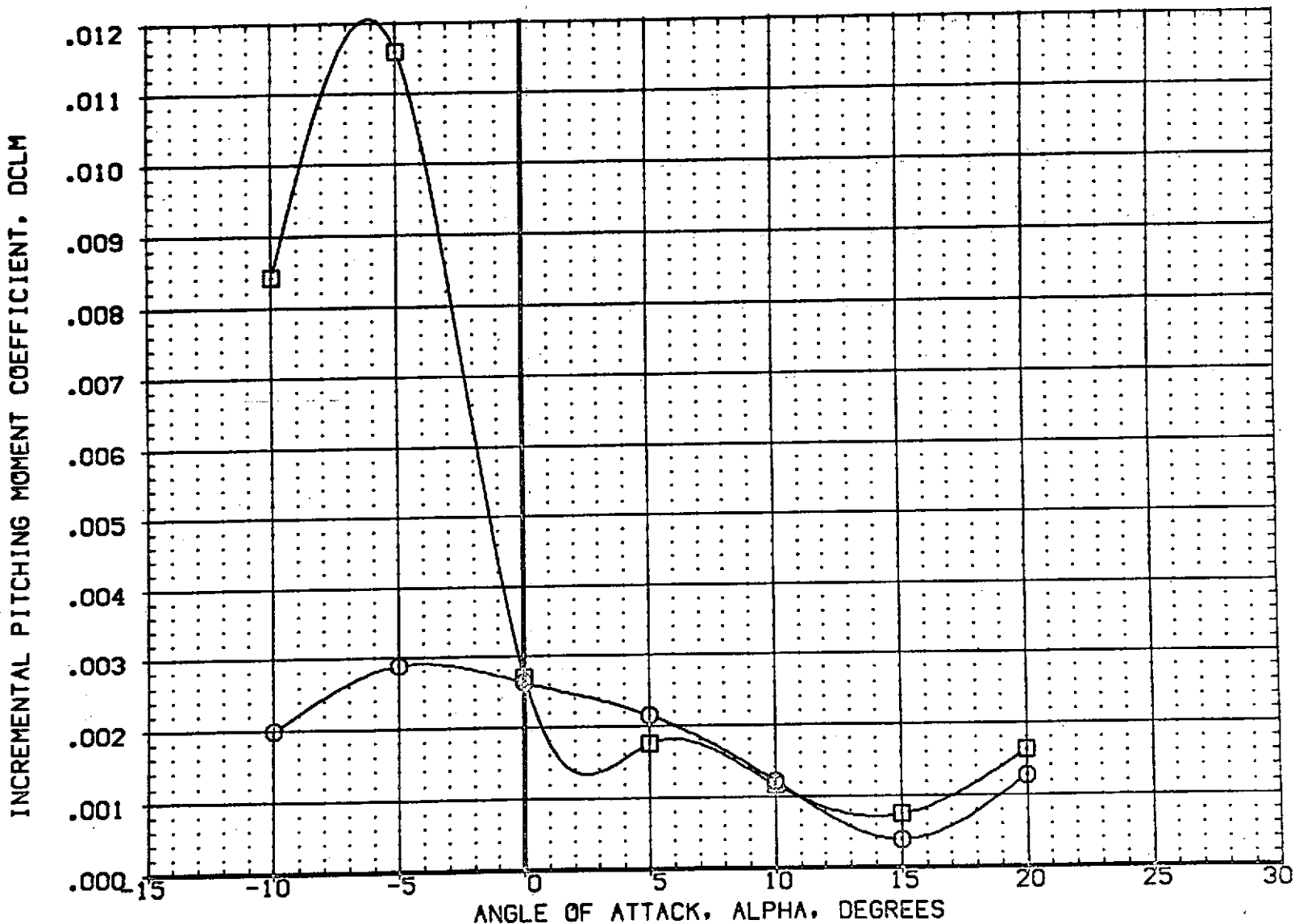


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL		CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1010)	○	1A-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	39.7360	SQ. IN.
(CH1030)	□	1A-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7480	INCHES
							BREF	9.3670	INCHES
							XMRP	7.3560	INCHES
							YMRP	.0000	INCHES
							ZMRP	.6840	INCHES
							SCALE	.0100	SCALE

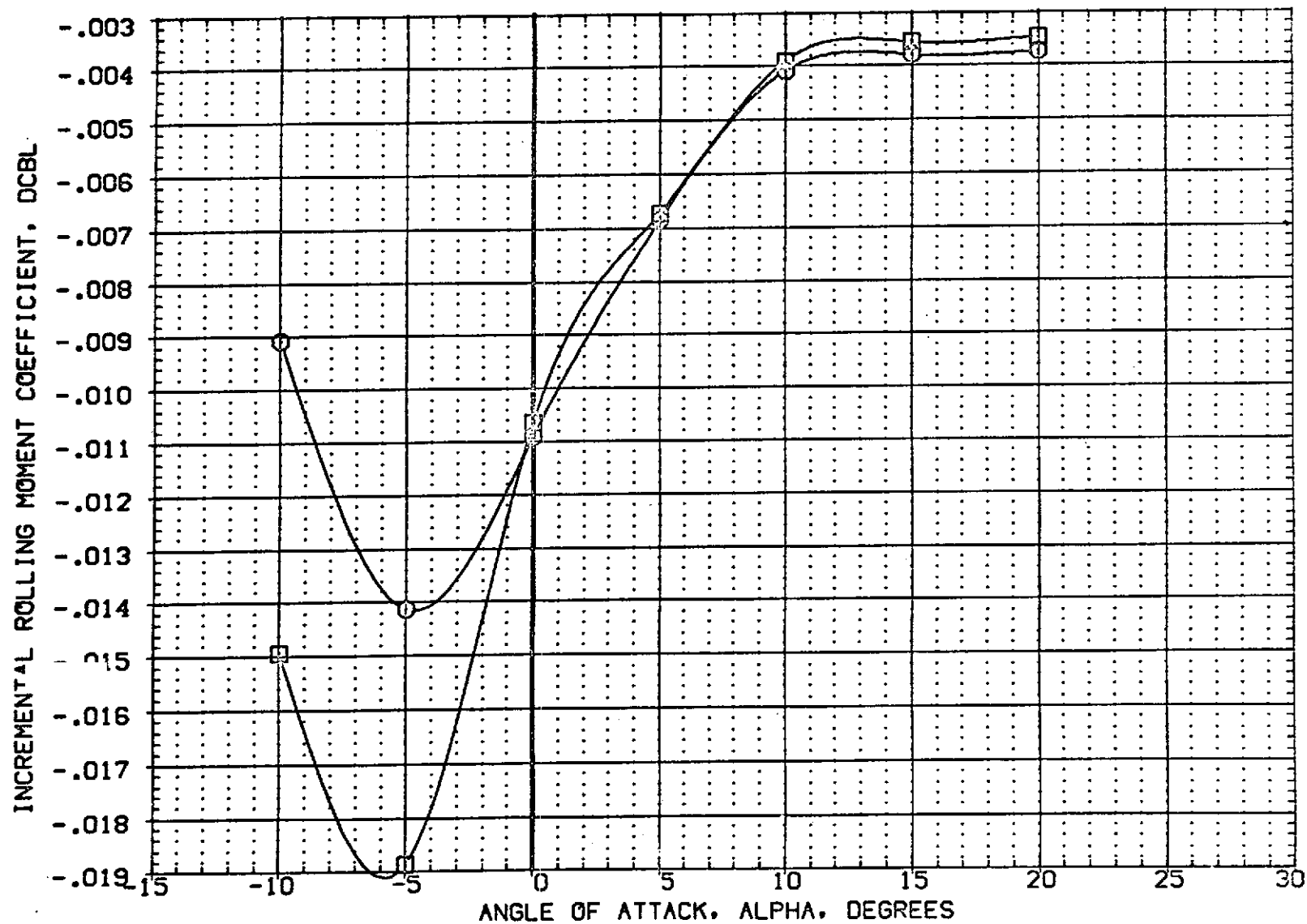


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1010)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	445.000	.000	.000	.000	SREF	39.7350	50. IN.
(CH1030)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7400	INCHES
						BREF	9.3570	INCHES
						XYRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5040	INCHES
						SCALE	.0100	SCALE

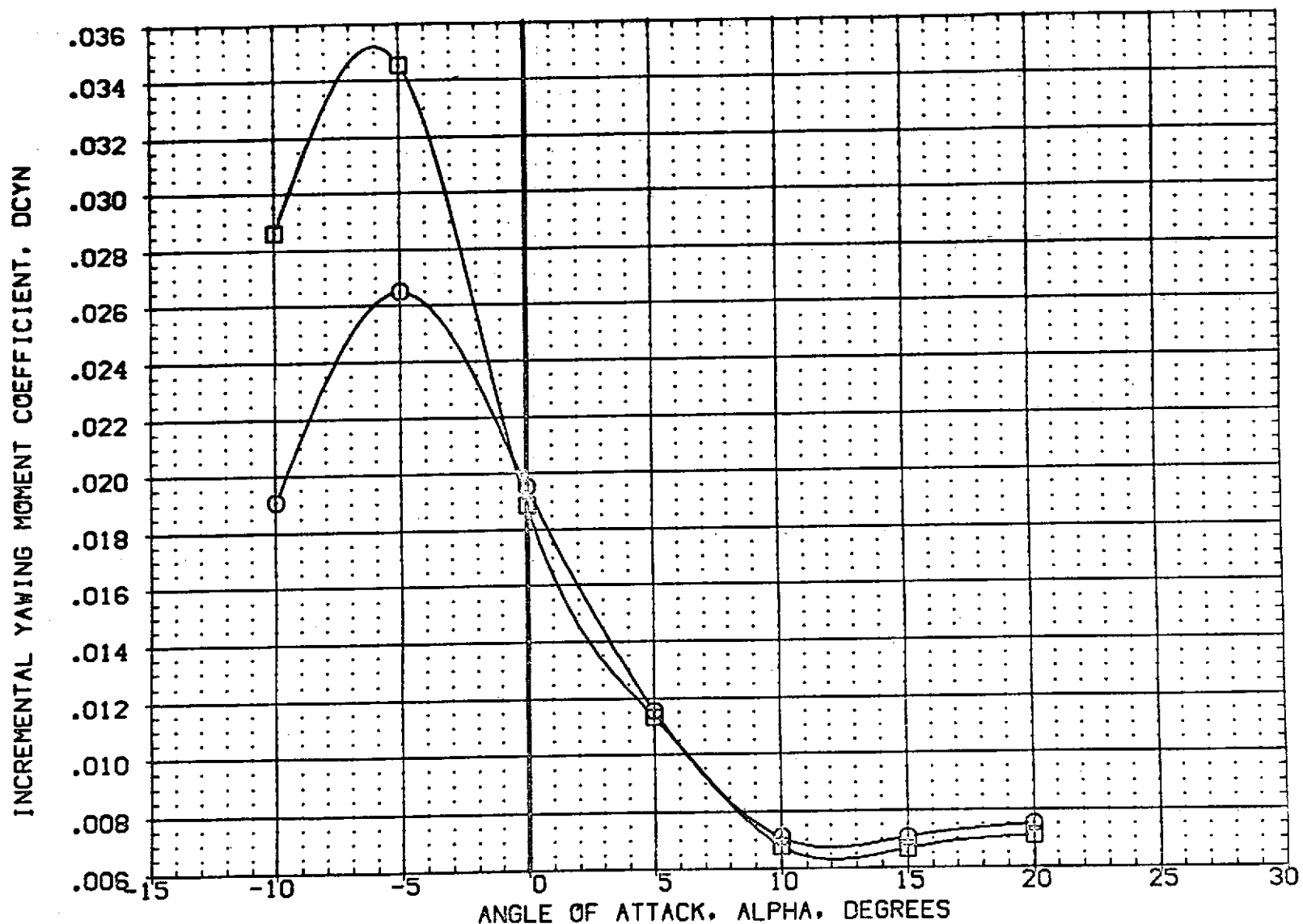


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZH10N)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N52 PITCH UP	446.000	.000	.000	.000	SREF	39.7300	SQ. IN.
(RH130N)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3600	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0000	INCHES
						SCALE	.0100	SCALE

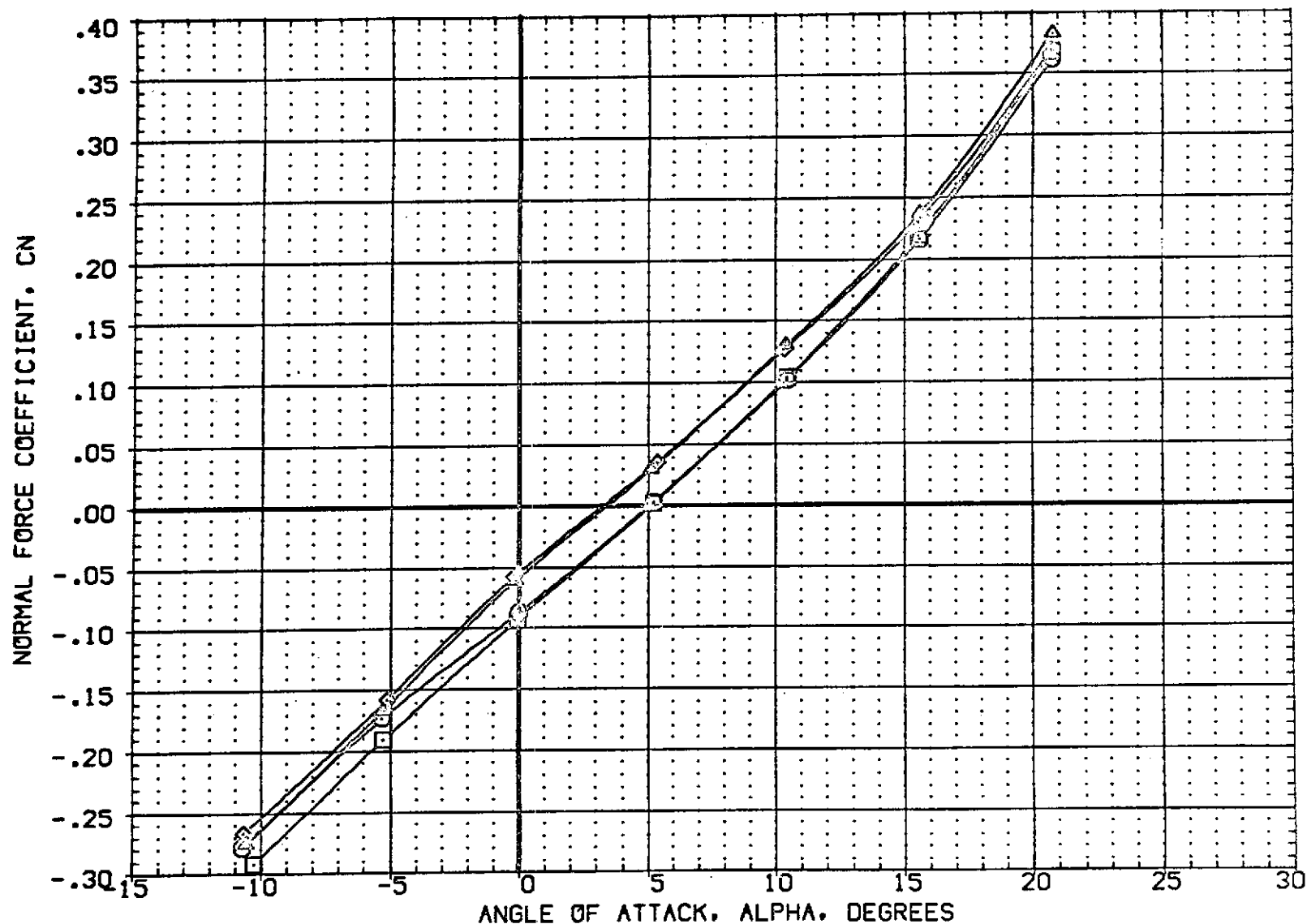


FIG 10 EFFECT OF SPOBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZH11CN)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	38.7390	SQ. IN.
(RH13CN)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH10ZF)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH10ZF)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XREF	7.3600	INCHES
						YREF	.0000	INCHES
						ZREF	.9840	INCHES
						SCALE	.0100	SCALE

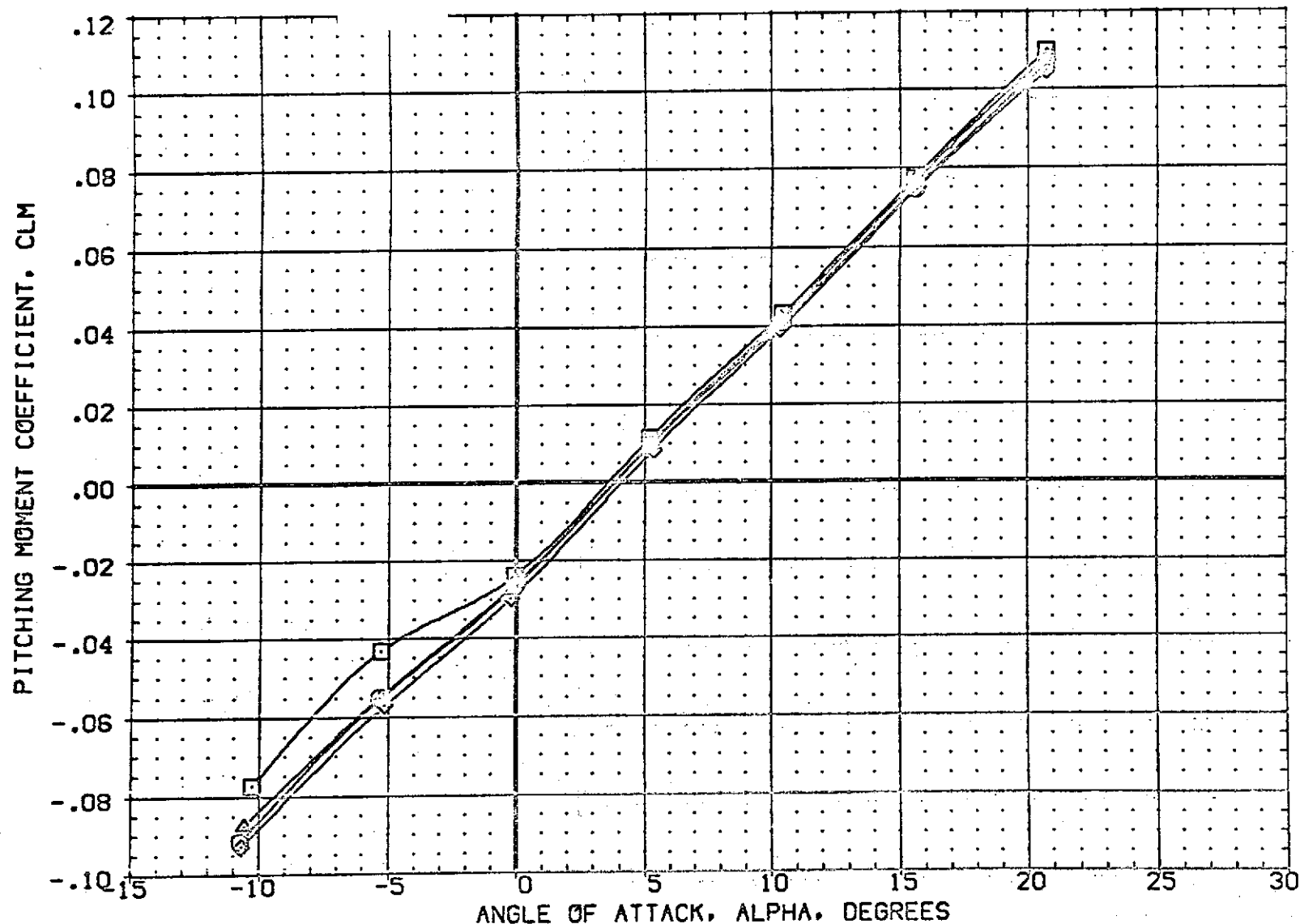


FIG 10. EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZHI10N)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	39.7330	50. IN.
(RH130N)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3600	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9040	INCHES
						SCALE	.0100	SCALE

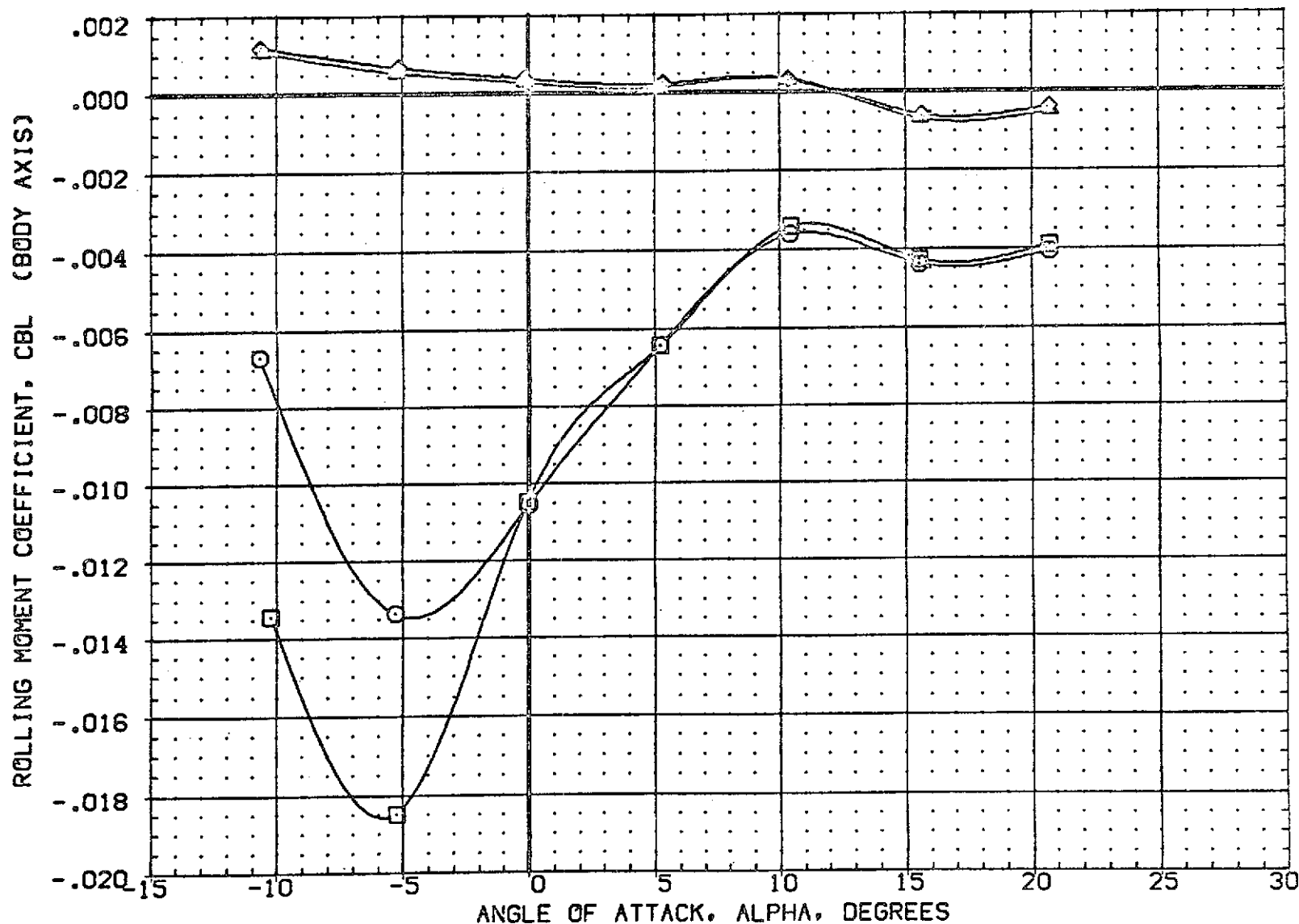


FIG 10 EFFECT OF SPOBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(ZH110N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	.000	SREF	38.7330	50. IN.
(ZH130N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	446.000	.000	.000	55.000	LREF	4.7460	INCHES
(ZH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH108F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3600	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

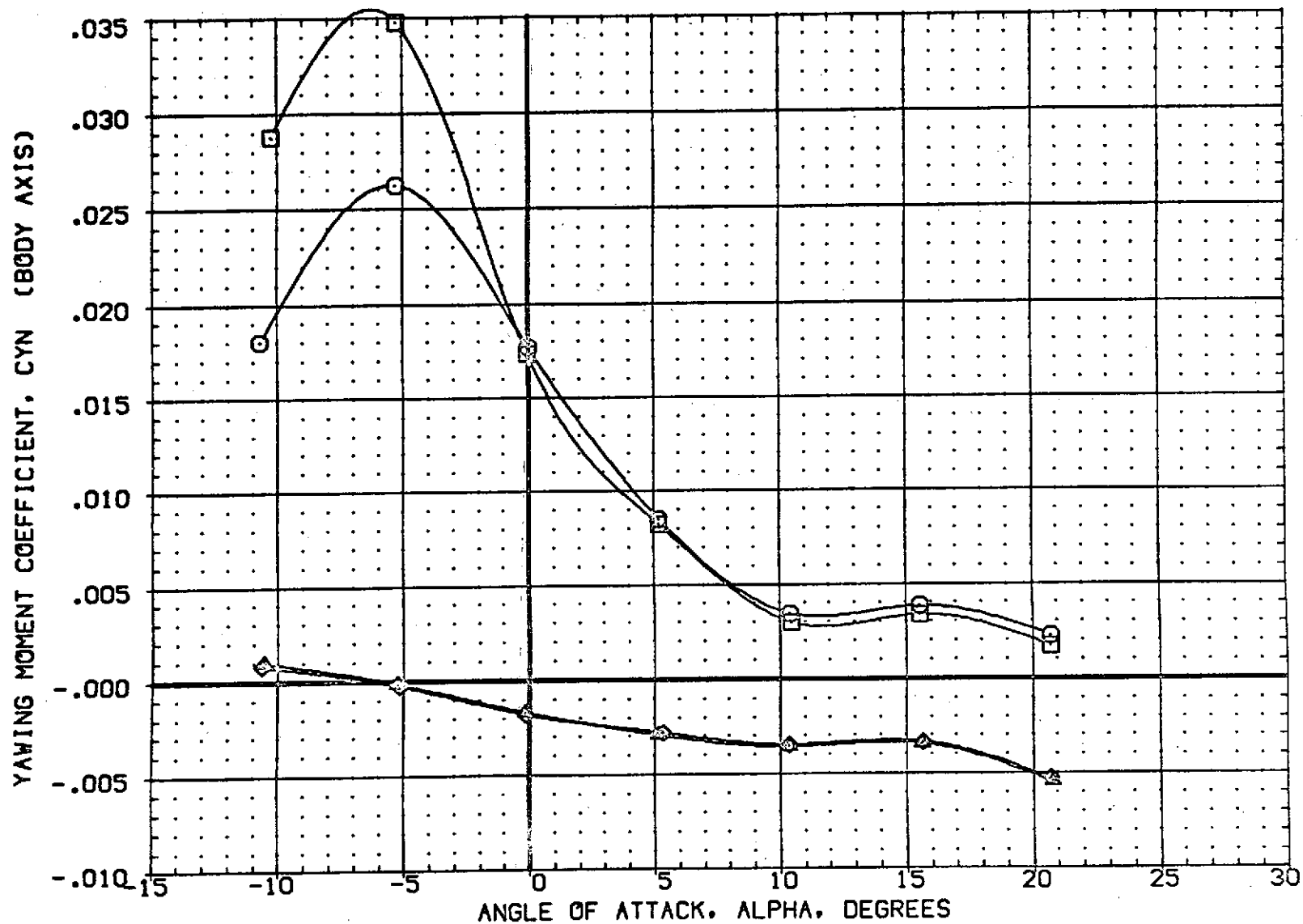


FIG 10 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	.000	SREF	38.7360	SQ. IN.
(CH1029)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	55.000	LREF	4.7480	INCHES
						BREF	9.3670	INCHES
						XMRP	7.3590	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

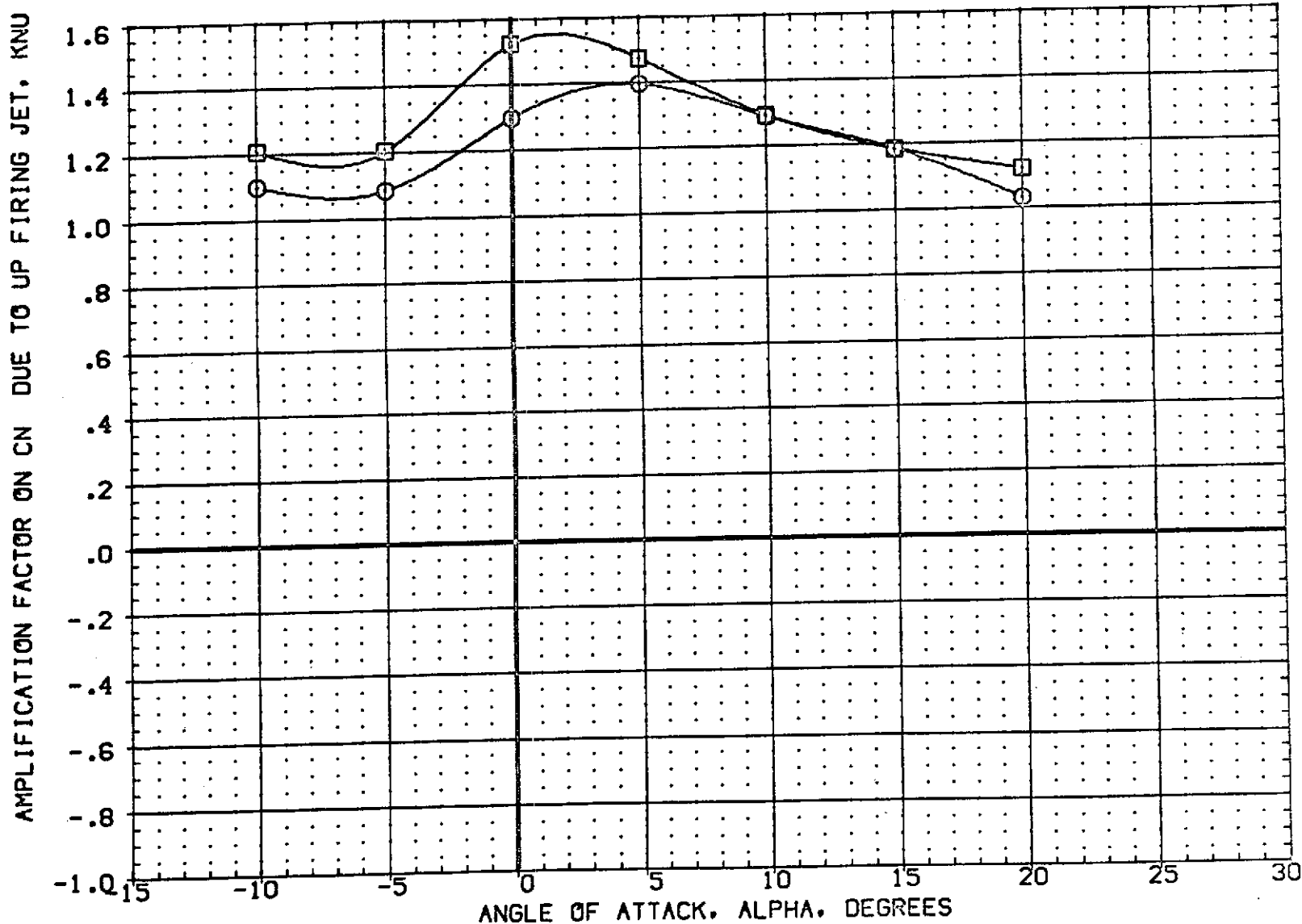


FIG 11 EFFECT OF SPOBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	39.7360	SQ. IN.
(CH1029)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7460	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3360	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0010	INCHES
						SCALE	.0100	SCALE

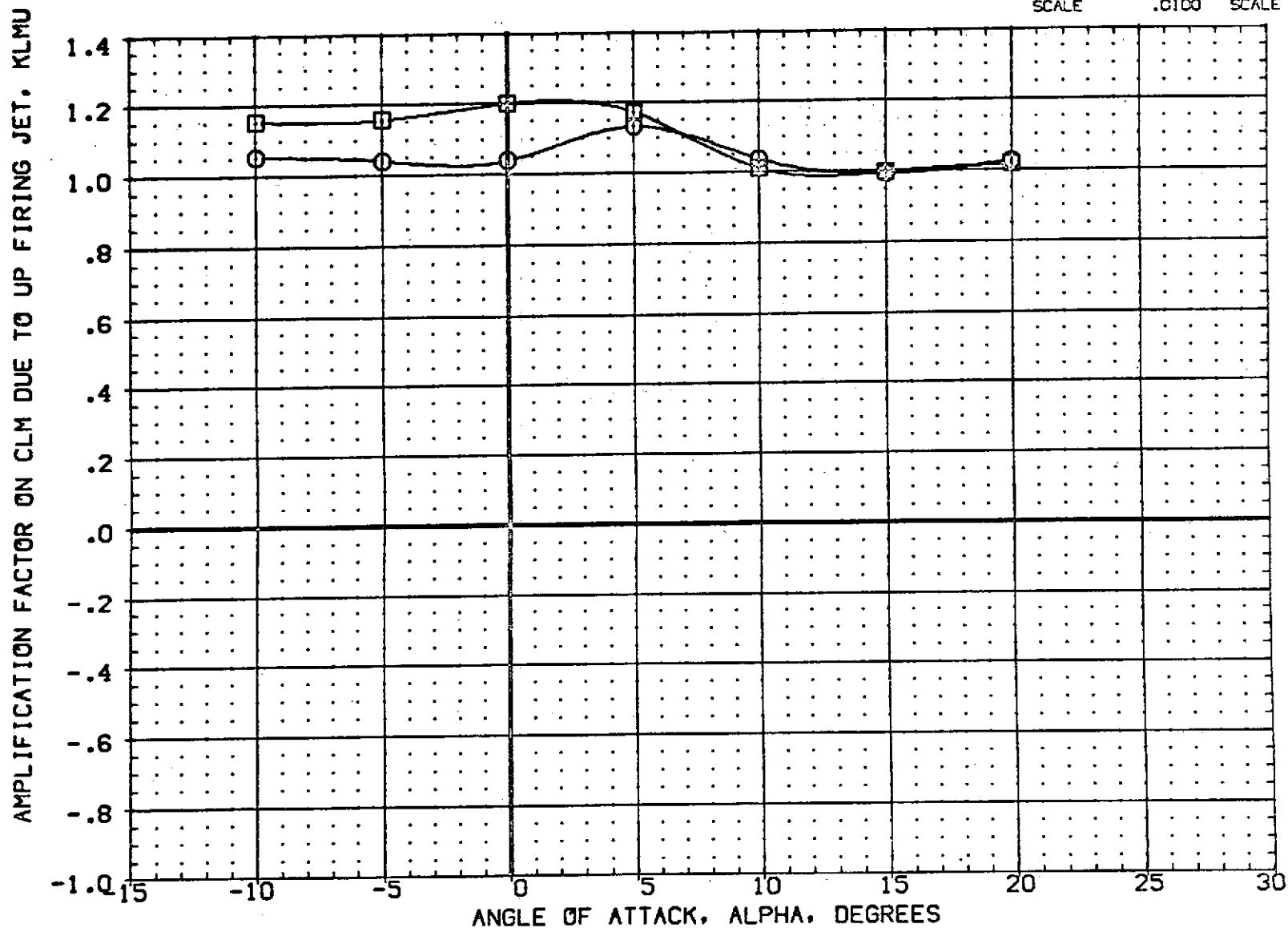


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	39.7350 SQ. IN.
(CH1029)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7450 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3330 INCHES
						YMRP	.0550 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

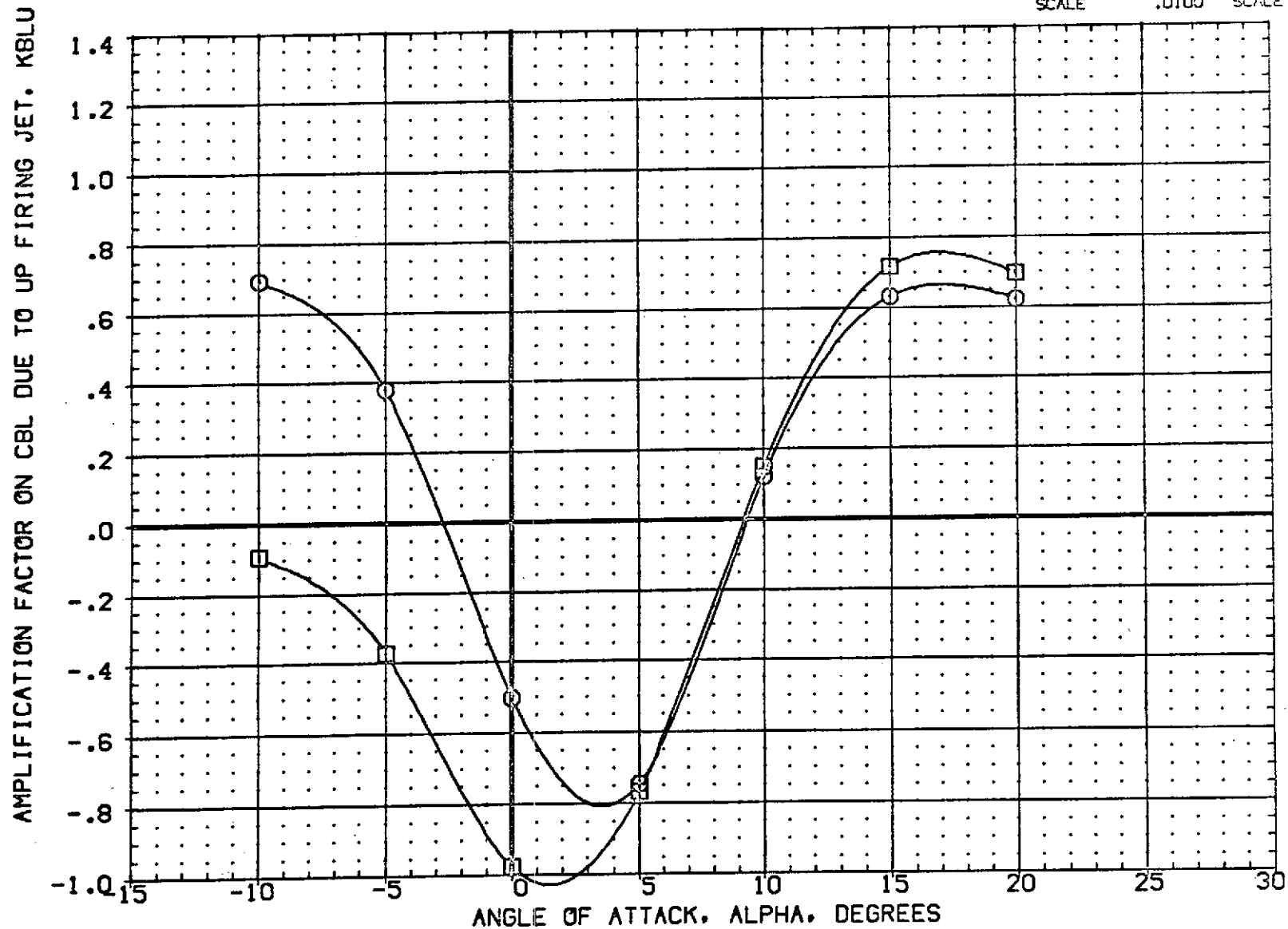


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1009)	IA-60 CFHT103 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360	50. IN.
(CH1029)	IA-60 CFHT103 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7480	INCHES
						BREF	9.3670	INCHES
						XMRP	7.2380	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5340	INCHES
						SCALE	.0100	SCALE

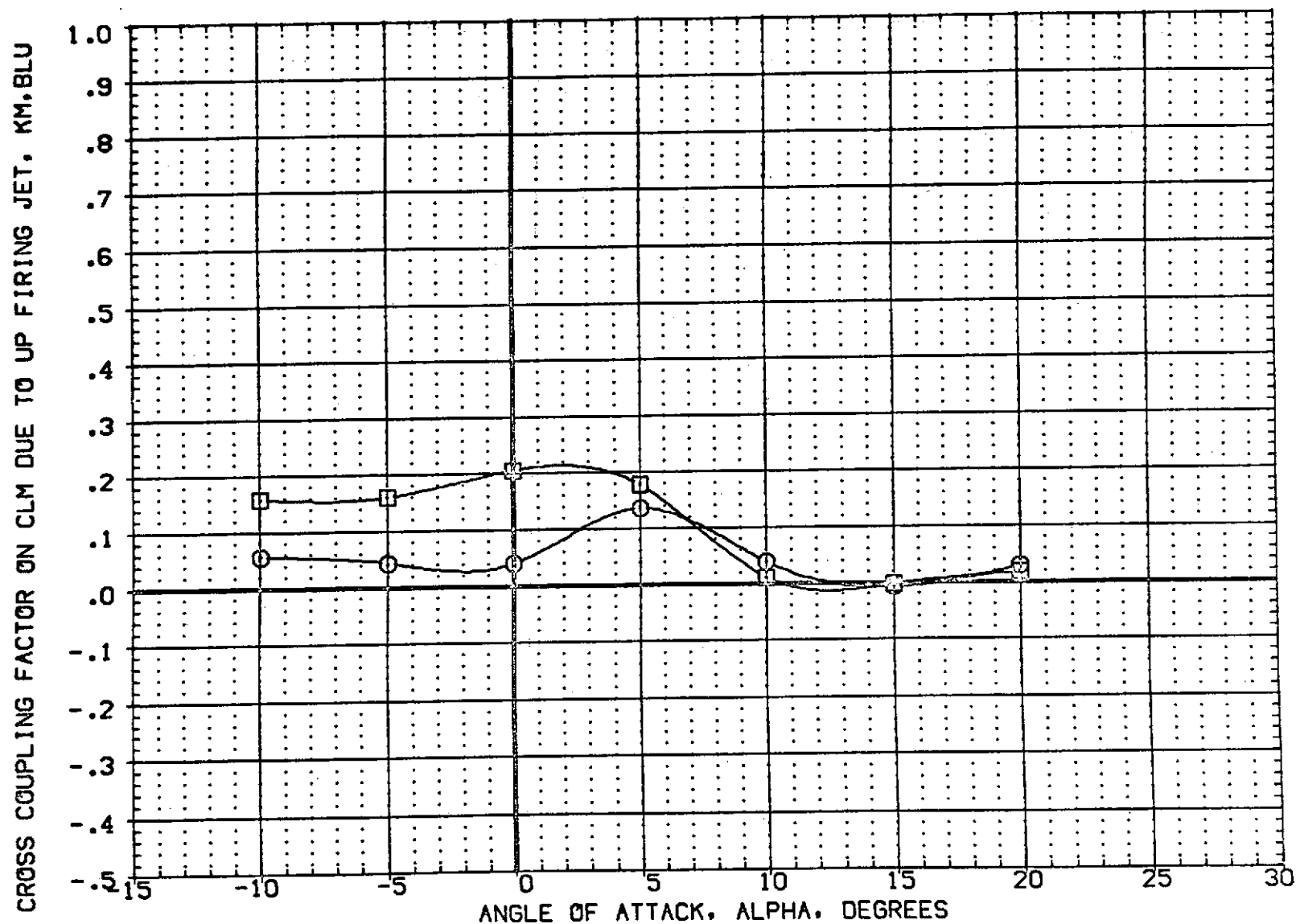


FIG 11 EFFECT OF SPOBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1009)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1029)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7490 INCHES
						BREF	9.2670 INCHES
						XMRP	7.3330 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

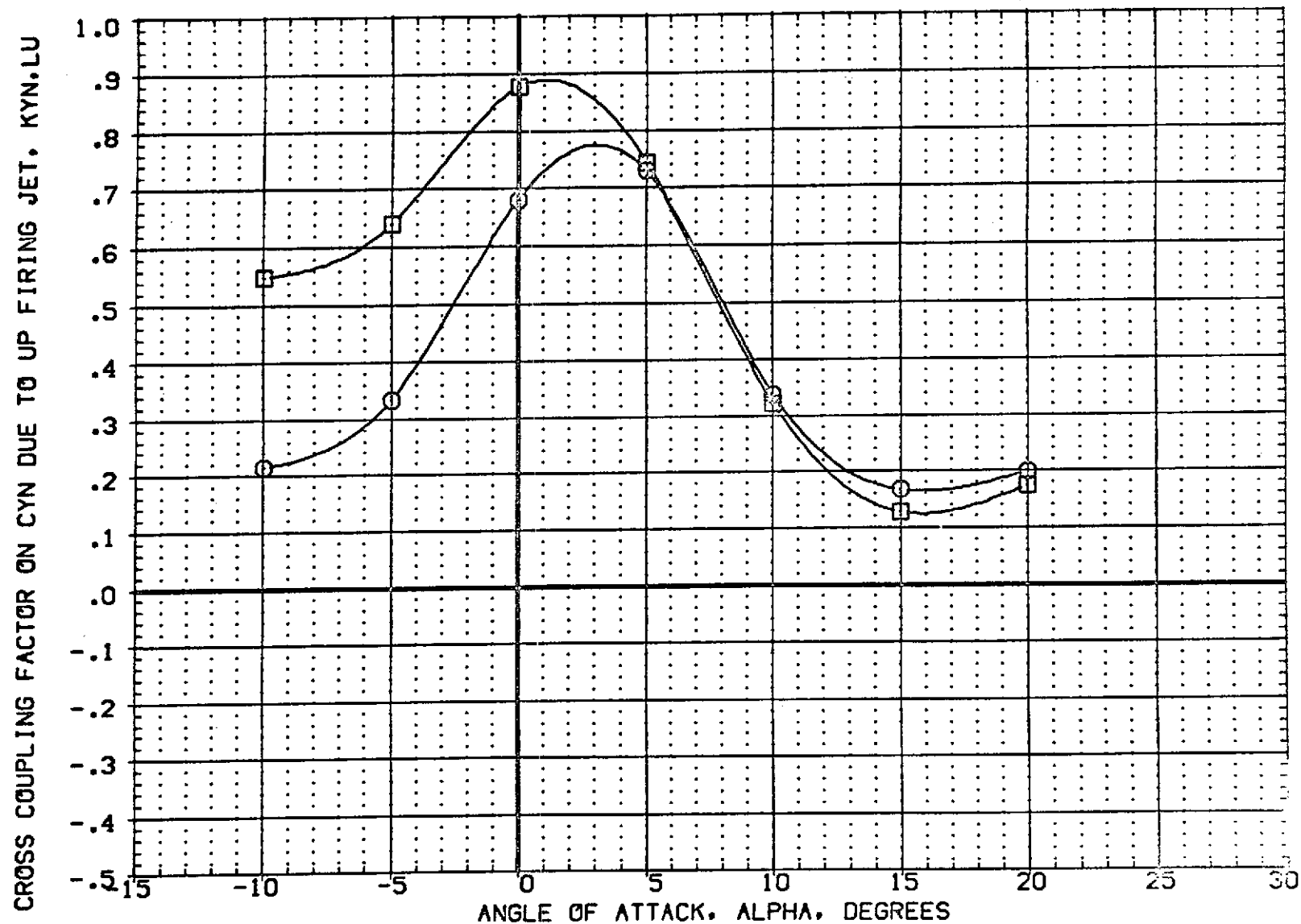


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPOBRK	REFERENCE INFORMATION	
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	158.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1029)	1A-60 CFHT108 MODEL 32-0T (0 T)NS2 PITCH UP	158.000	.000	.000	55.000	LREF	4.7480 INCHES
						BREF	9.3670 INCHES
						XREF	7.3630 INCHES
						YREF	.0000 INCHES
						ZREF	.5910 INCHES
						SCALE	.0100 SCALE

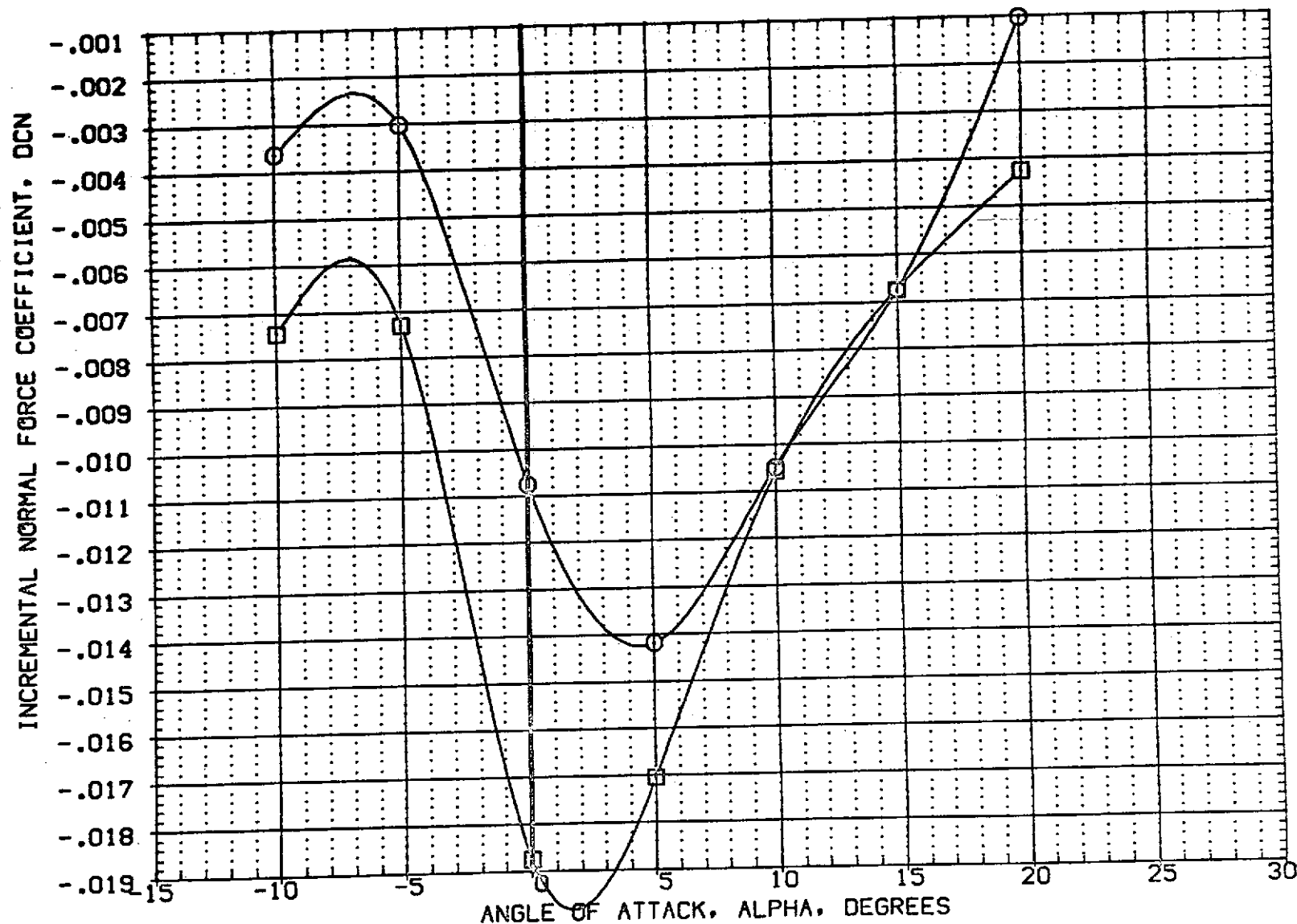


FIG 11 EFFECT OF SPDBRK DEFLECTION ON NS2 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1009)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360	SQ. IN.
(CH1029)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7430	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3800	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0040	INCHES
						SCALE	.0100	SCALE

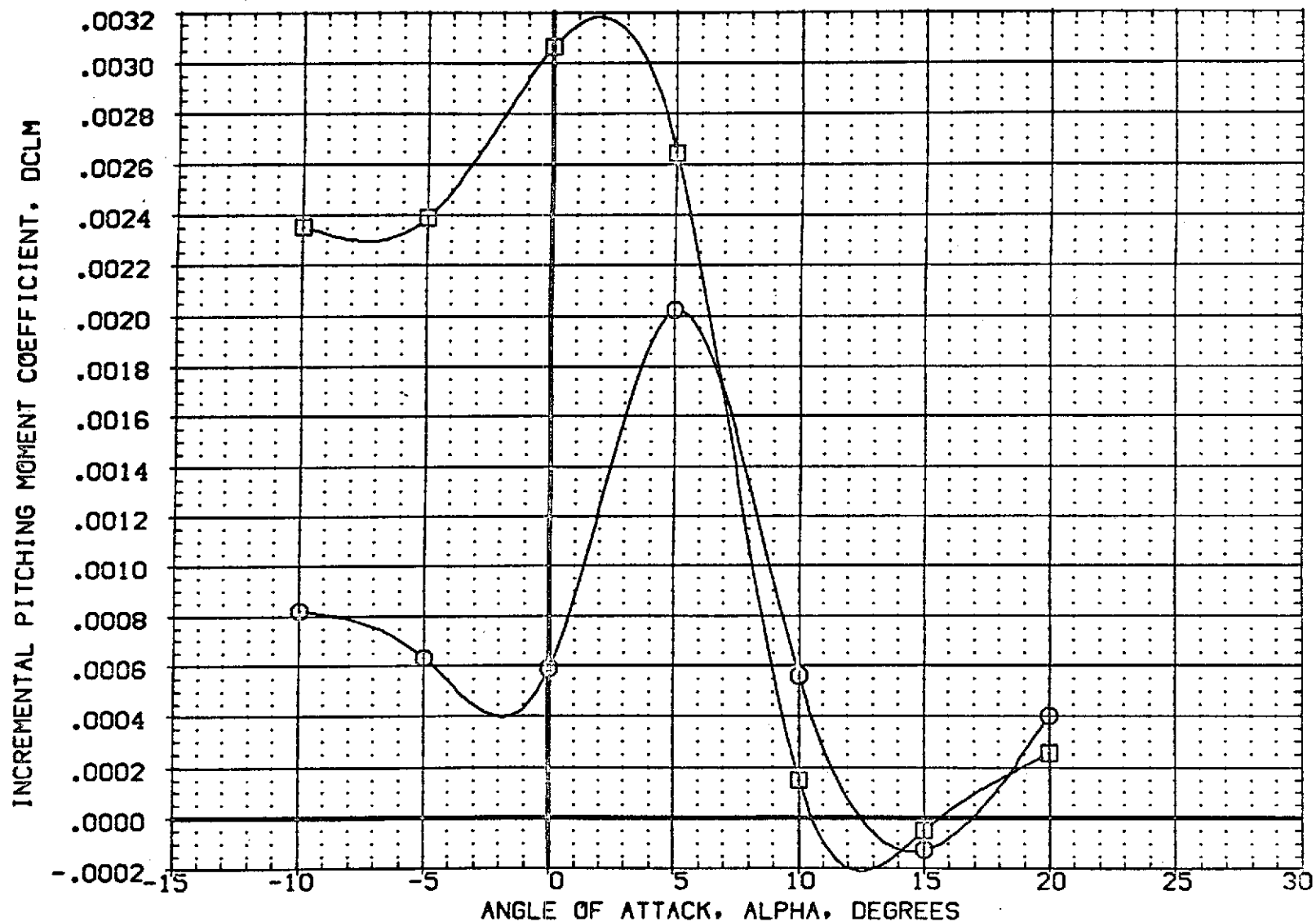


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1009)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7320	SQ. IN.
(CH1029)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7420	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

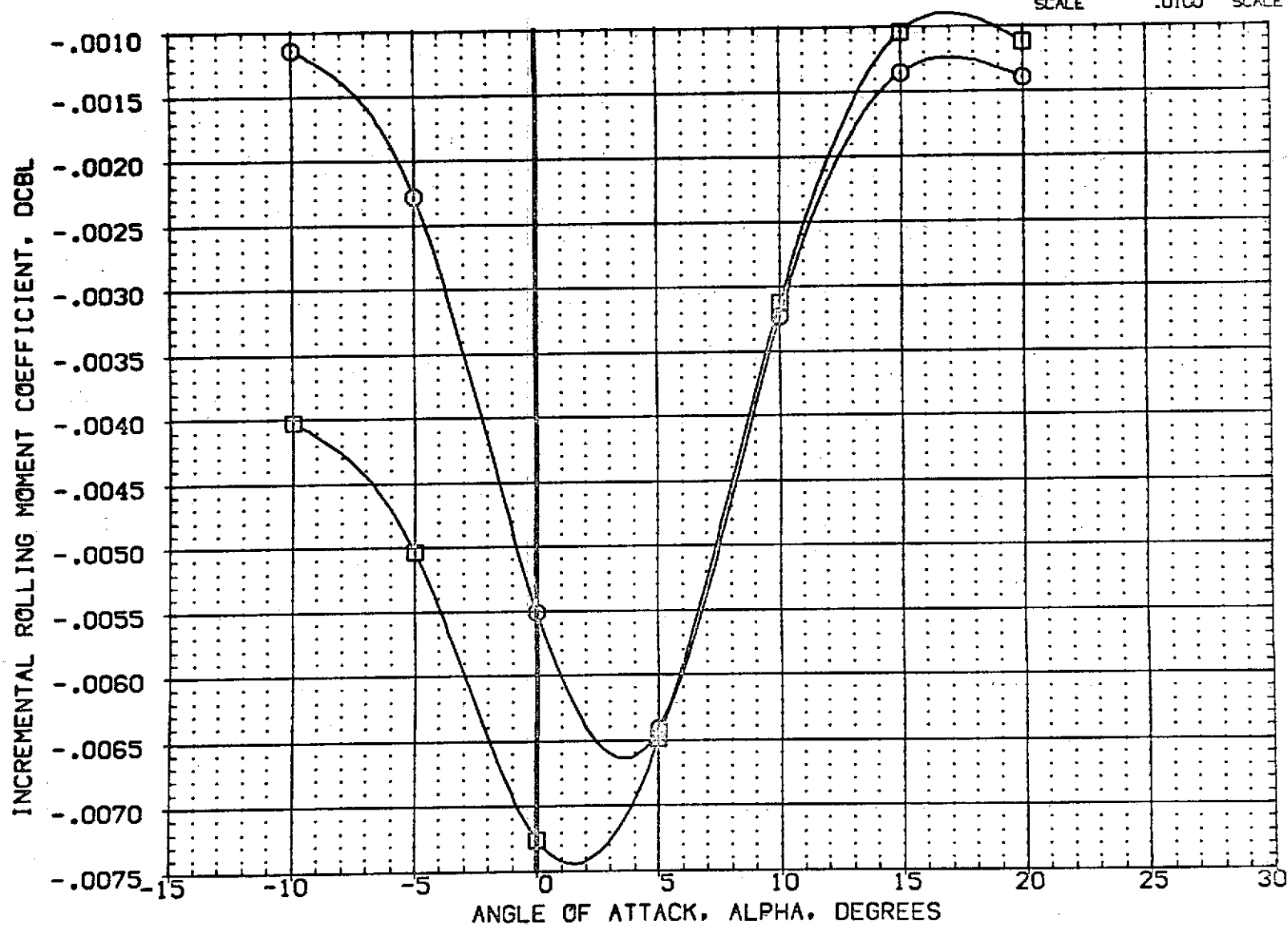


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1009)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1029)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 PITCH UP	153.000	.000	.000	55.000	LREF	4.7480 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3800 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5340 INCHES
						SCALE	.0100 SCALE

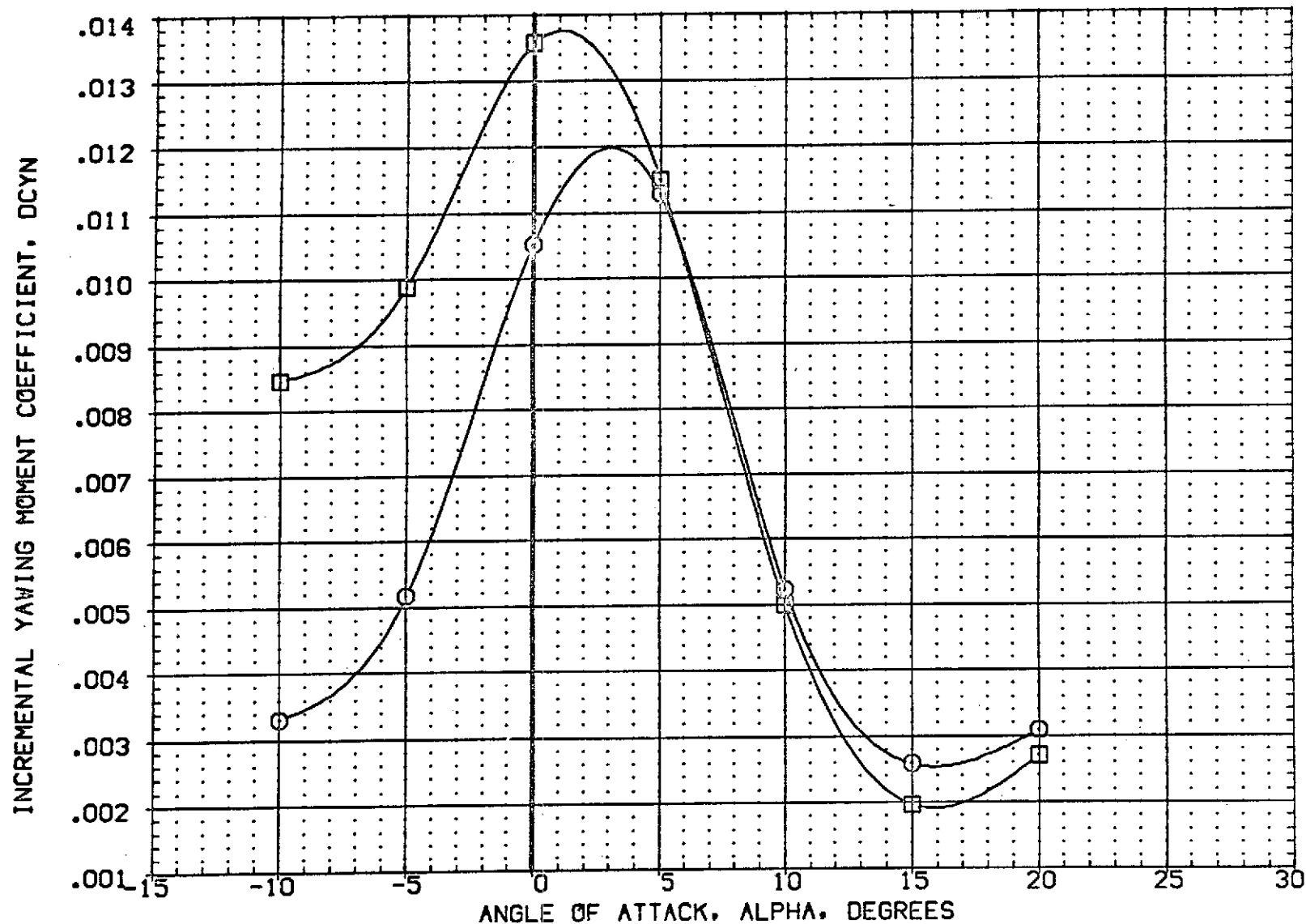


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

CALMACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(RH109N)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360 SQ.IN.
(RH129N)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7480 INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-OT (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3670 INCHES
(RH108F)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3580 INCHES
						YMRP	.0000 INCHES
						ZMRP	.6940 INCHES
						SCALE	.0100 SCALE

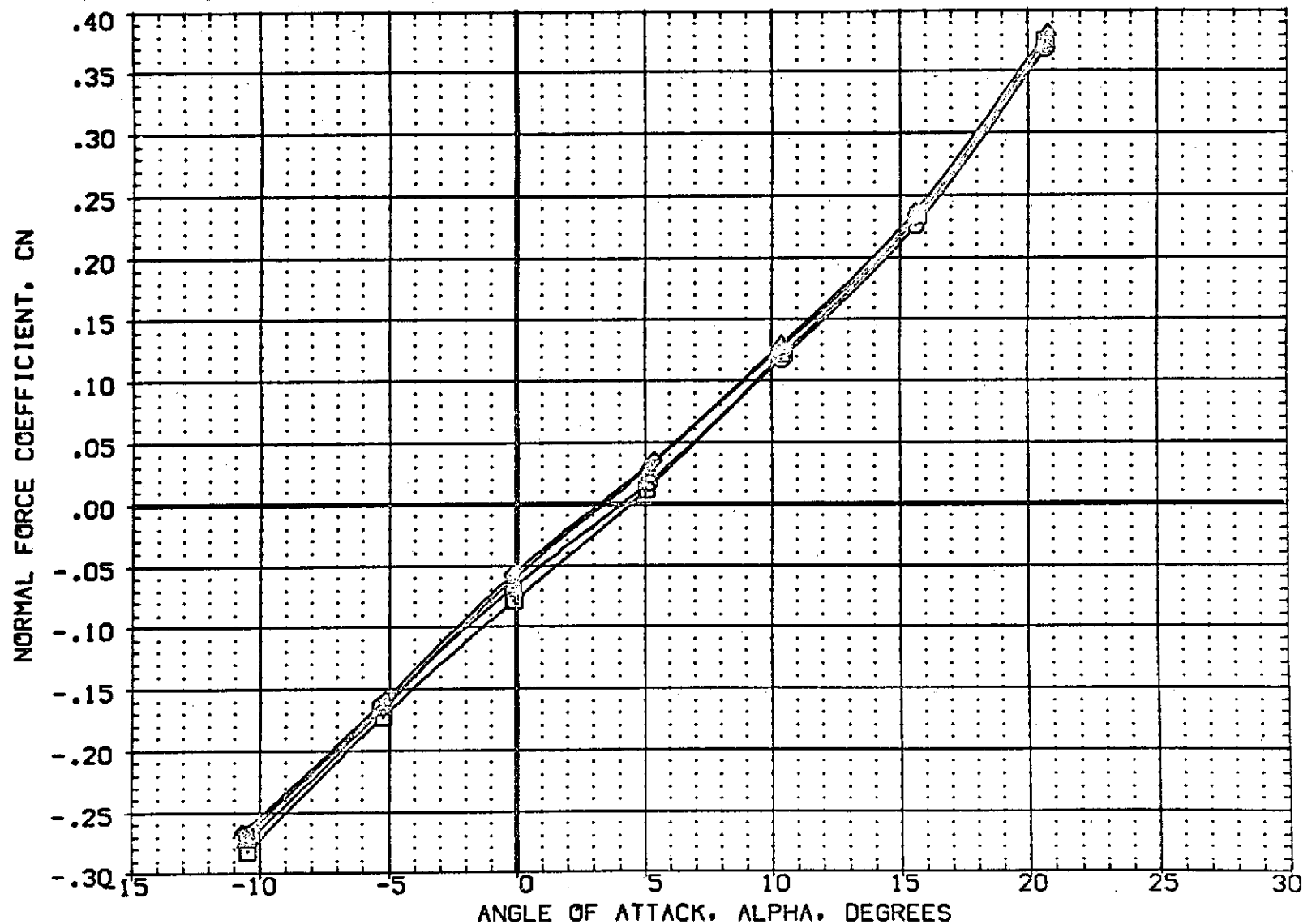


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(RH109N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	.000	SREF	38.7350 SQ. IN.
(RH123N)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	159.000	.000	.000	55.000	LREF	4.7400 INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570 INCHES
(RH106F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3660 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5940 INCHES
						SCALE	.0100 SCALE

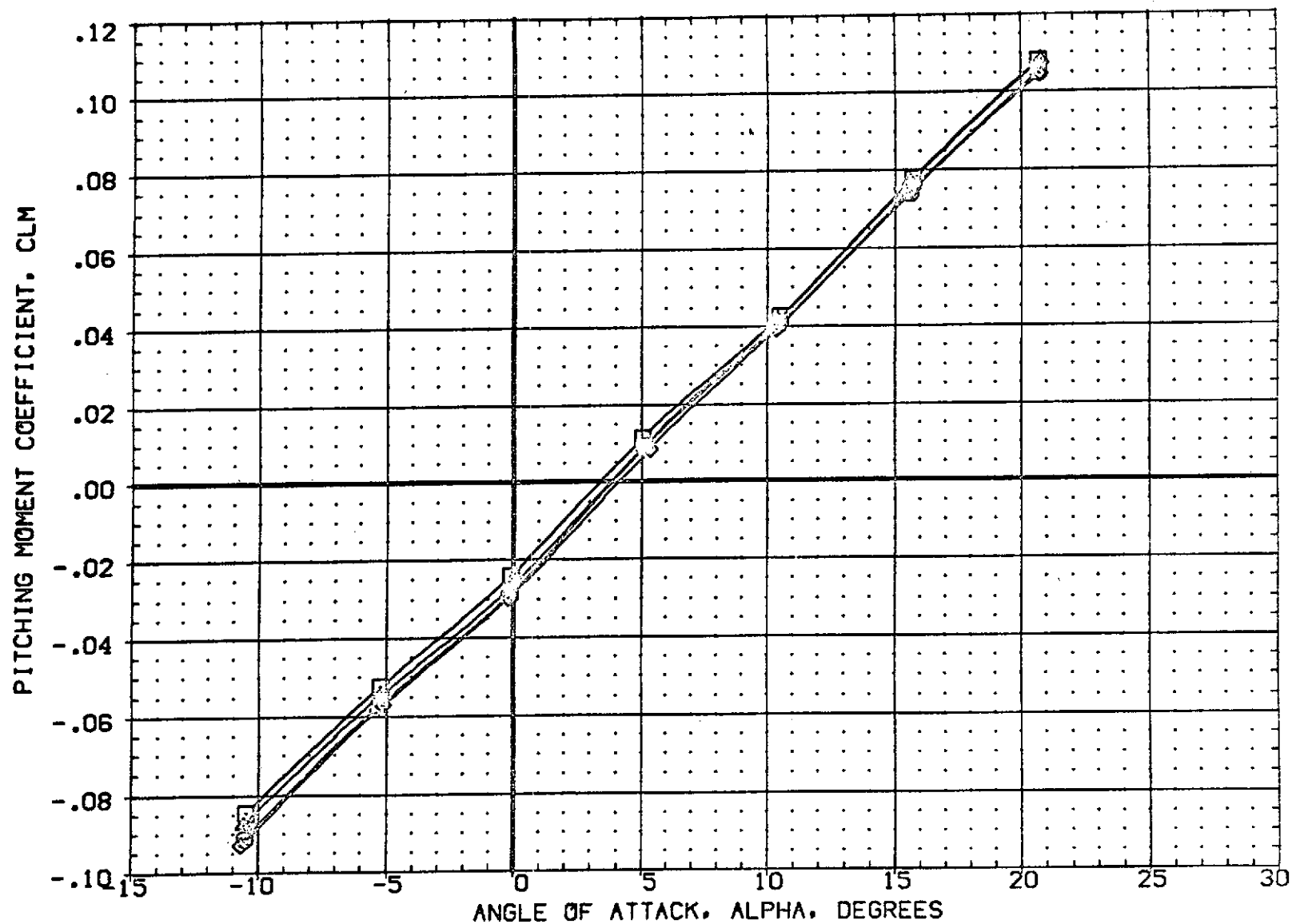


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(24102N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	38.7360	50. IN.
(24102N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7460	INCHES
(24102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.5670	INCHES
(24102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

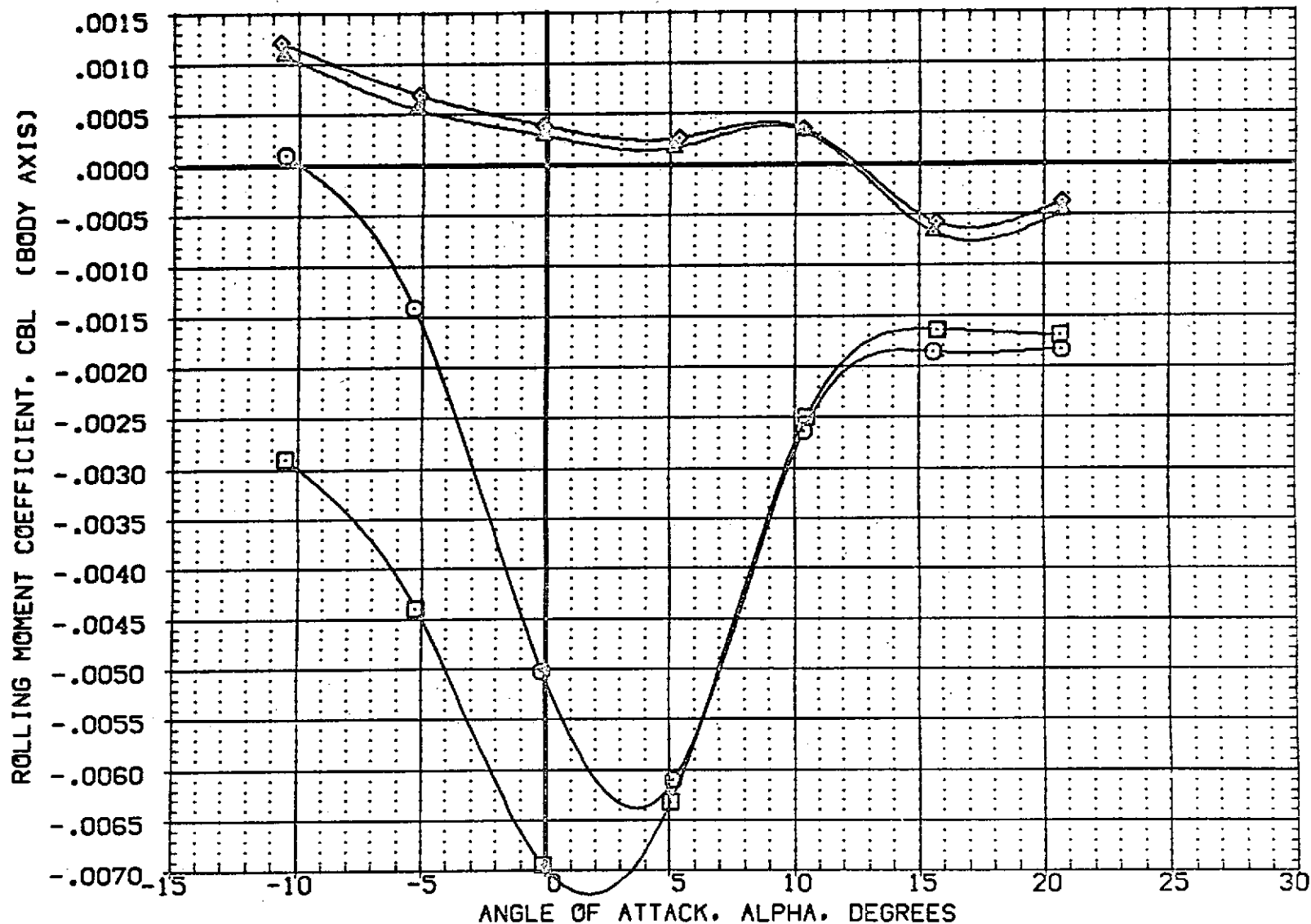


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH109N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	.000	SREF	33.7360	SQ. IN.
(RH129N)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 PITCH UP	158.000	.000	.000	55.000	LREF	4.7480	INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH108F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 NS2 RCS OFF	.000	.000	.000	55.000	XMRP	7.3590	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9540	INCHES
						SCALE	.0100	SCALE

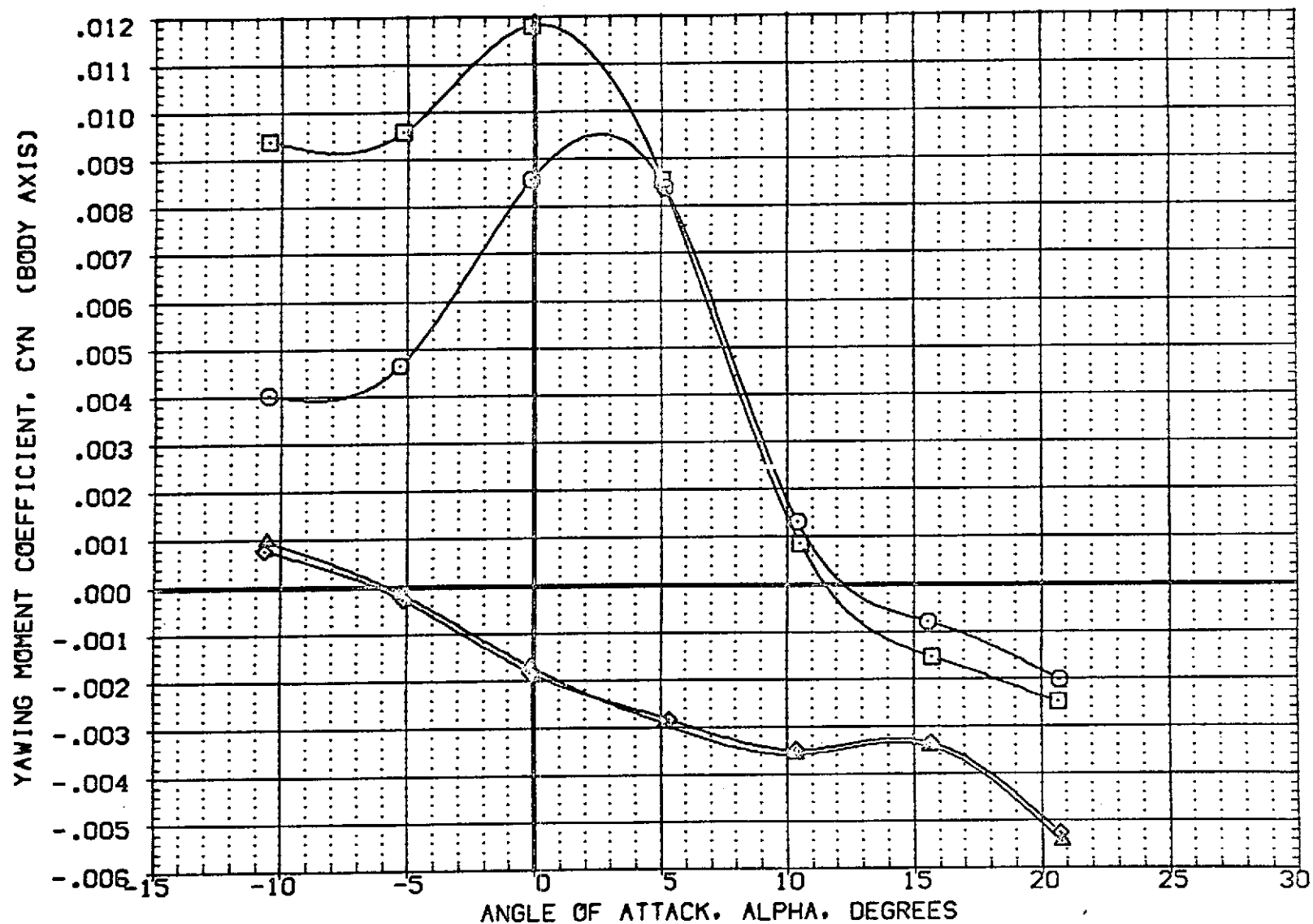


FIG 11 EFFECT OF SPDBRK DEFLECTION ON N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

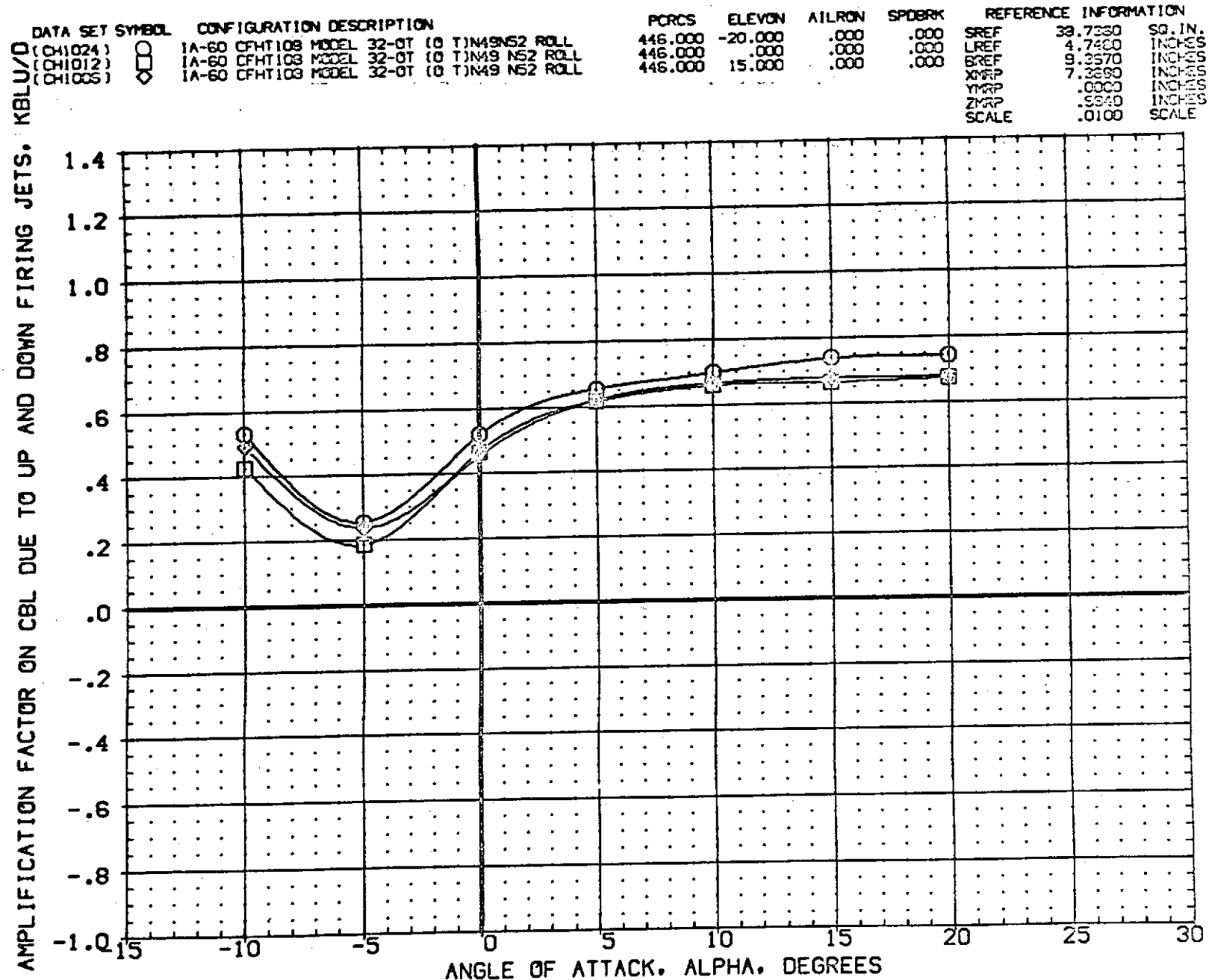


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CHI024)	IA-60 CFHT108 MODEL 32-0T (O T)N49NS2 ROLL	446.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(CHI012)	IA-60 CFHT103 MODEL 32-0T (O T)N49 NS2 ROLL	446.000	.000	.000	.000	LREF	4.7460	INCHES
(CHI006)	IA-60 CFHT108 MODEL 32-0T (O T)N49 NS2 ROLL	446.000	15.000	.000	.000	BREF	9.3570	INCHES
						XMRP	7.3560	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0160	SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS, KM.BL2



FIG 12 EFFECT OF ELEVON DEFLECTION ON N49NS2 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CHI024)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(CHI012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7460	INCHES
(CHI006)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	15.000	.000	.000	BREF	9.3670	INCHES
						XGRP	7.8000	INCHES
						YGRP	.0000	INCHES
						ZGRP	.0000	INCHES
						SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS. KYN.L2

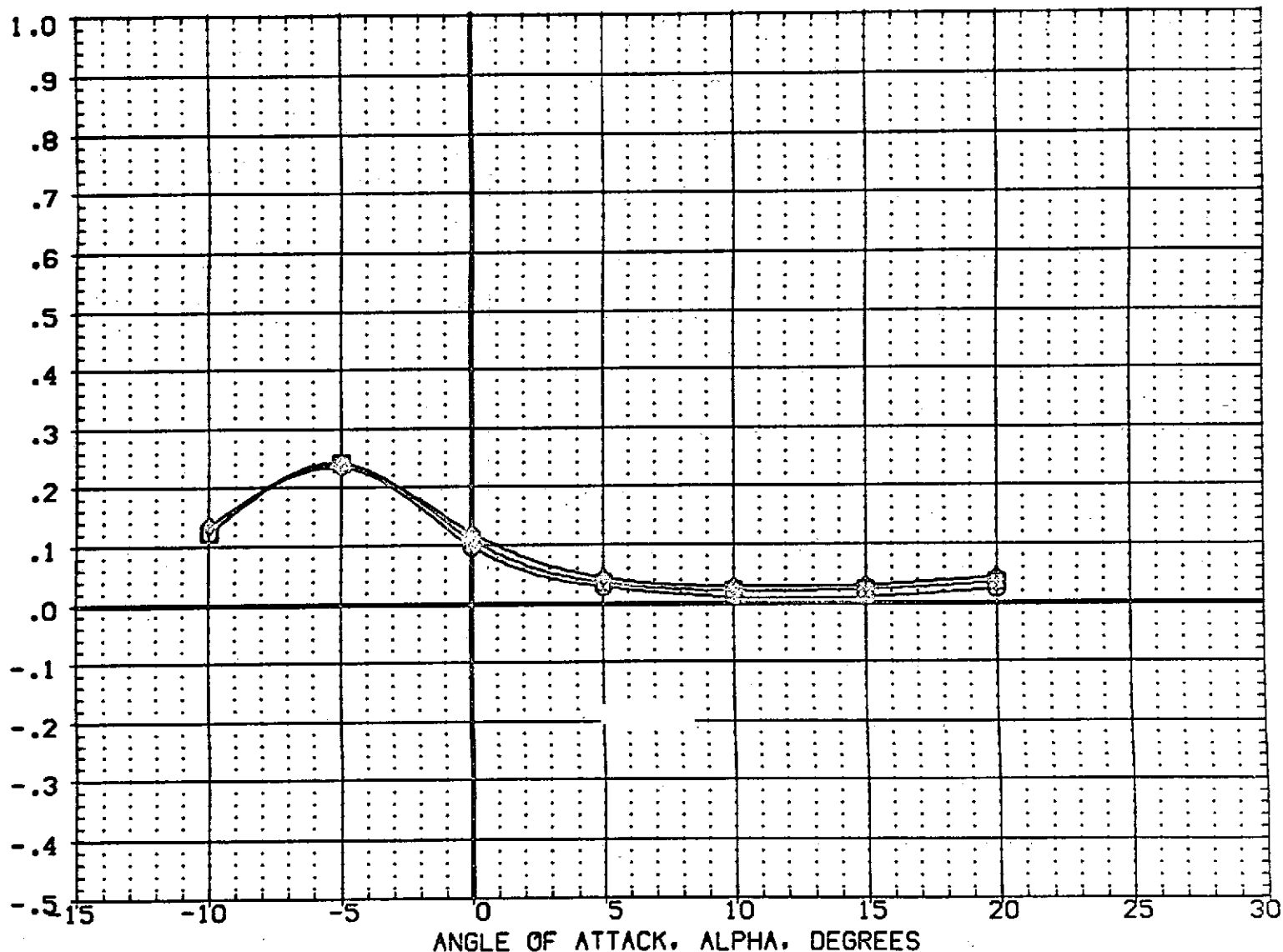


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1024)	IA-60 CFHT108 MODEL 32-OT (O) T1N49N52 ROLL	446.000	-20.000	.000	.000	SREF	39.7350 SQ. IN.
(CH1012)	IA-60 CFHT103 MODEL 32-OT (O) T1N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1005)	IA-60 CFHT108 MODEL 32-OT (O) T1N49 N52 ROLL	446.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3300 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

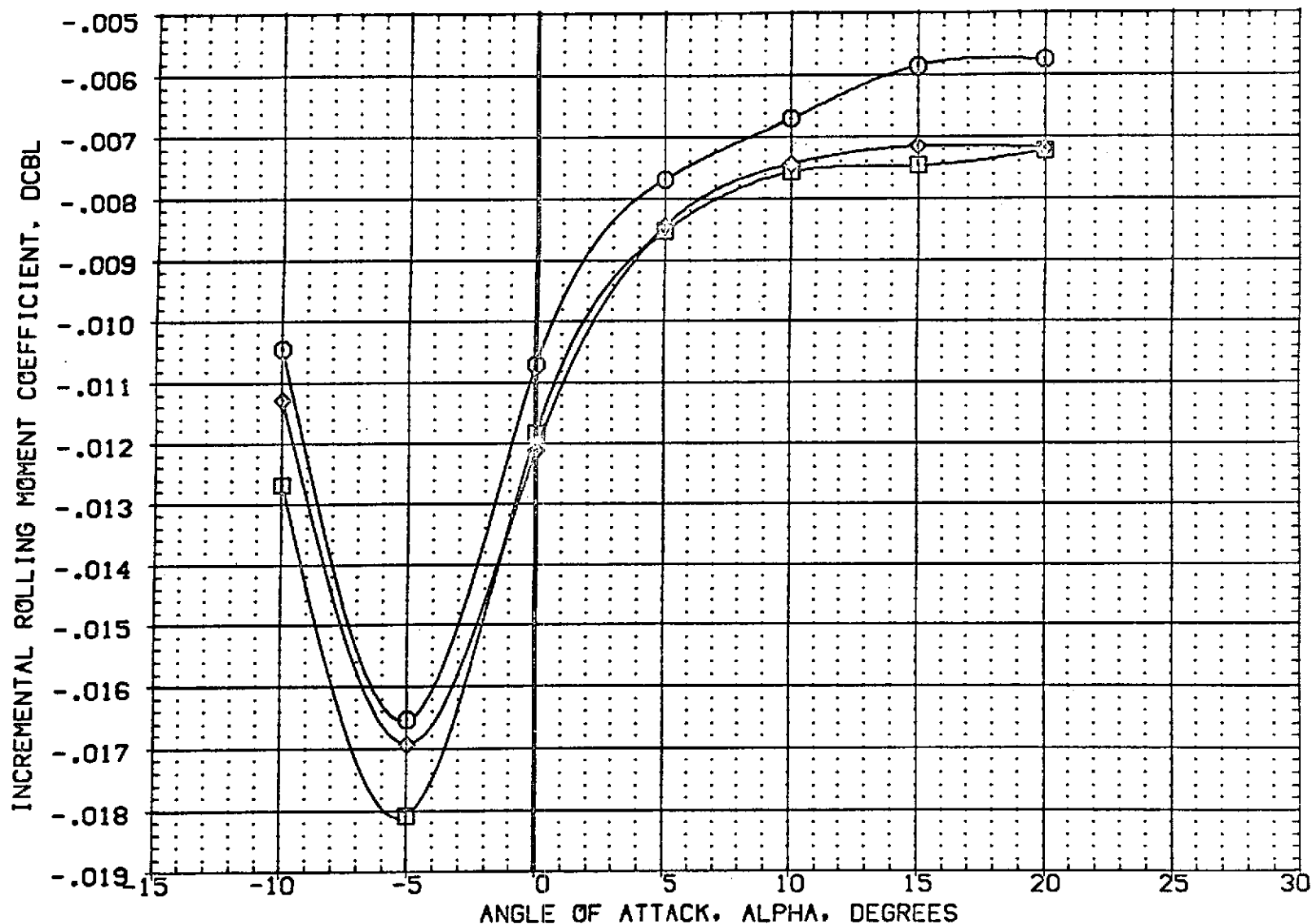


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1024)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	.000	.000	LREF	4.7460 INCHES
(CH1006)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5940 INCHES
						SCALE	.0100 SCALE

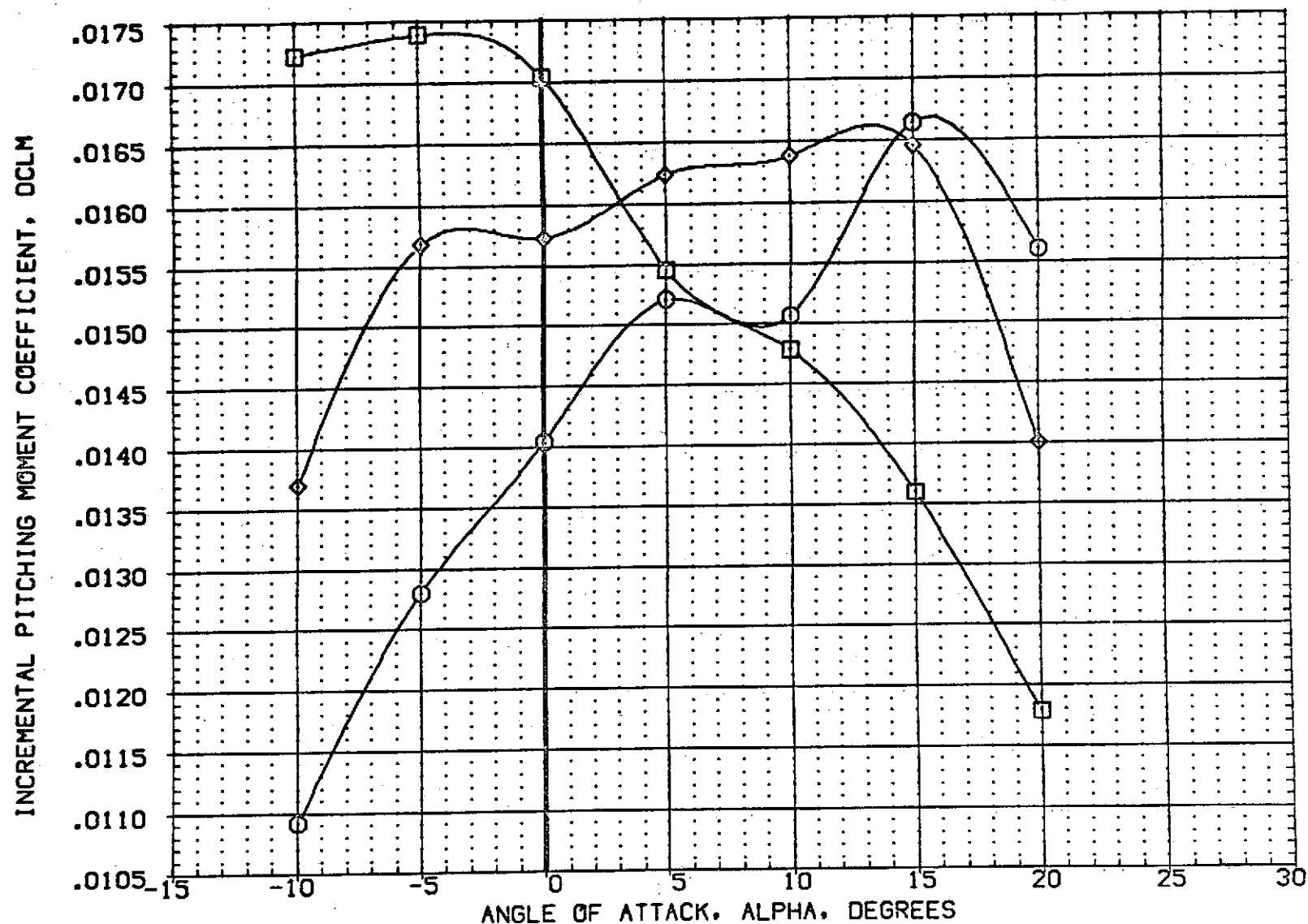


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1024)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	39.7360	50.1N.
(CH1012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 NS2 ROLL	446.000	.000	.000	.000	LREF	4.7400	INCHES
(CH1006)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 NS2 ROLL	446.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5340	INCHES
						SCALE	.0100	SCALE

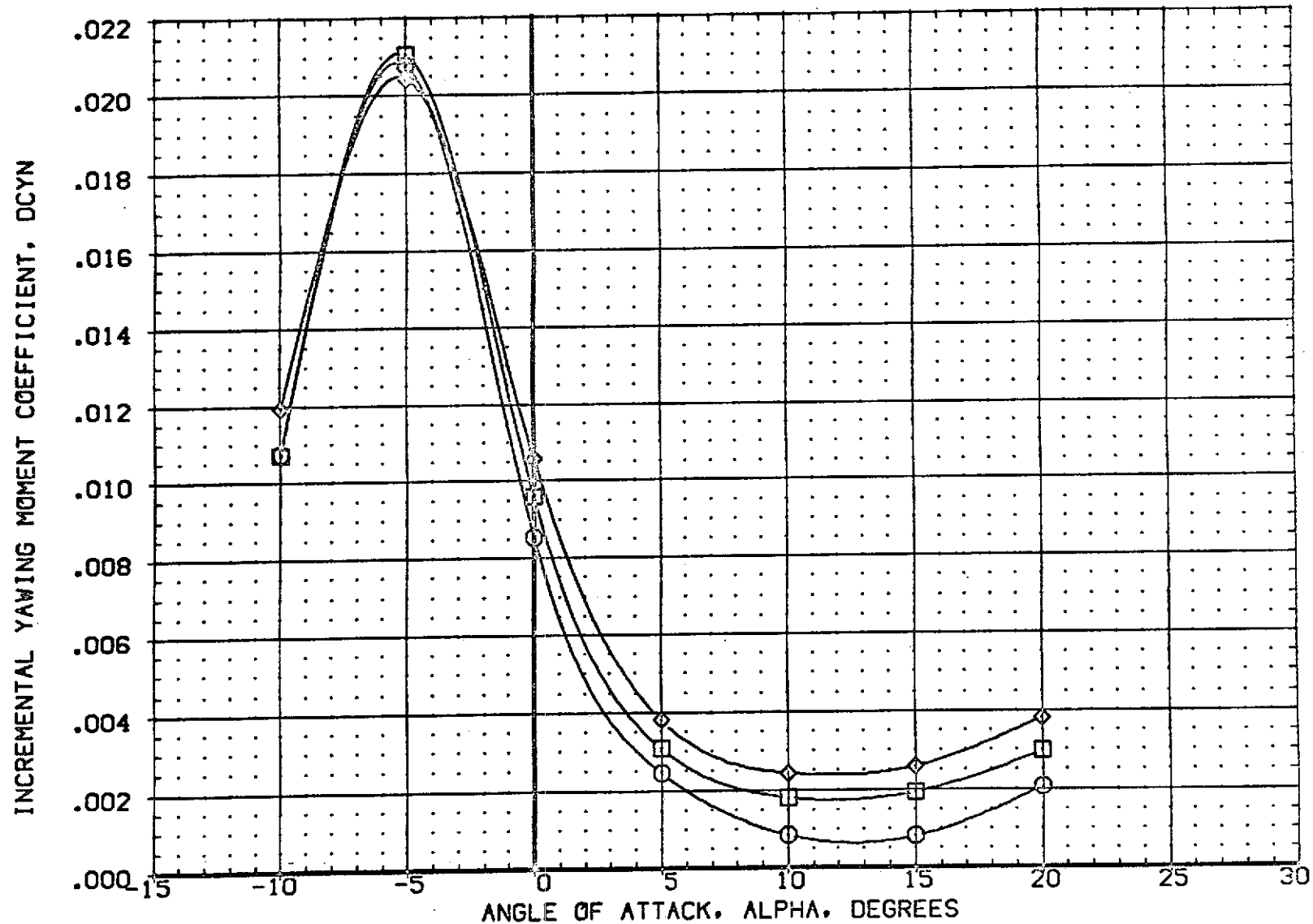


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(RH124N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	38.7360	50.1N.
(RH112N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7460	INCHES
(RH105N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51	.000	-20.000	.000	.000	XMRP	7.3800	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-OT (0 T)N52	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51	.000	15.000	.000	.000	ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

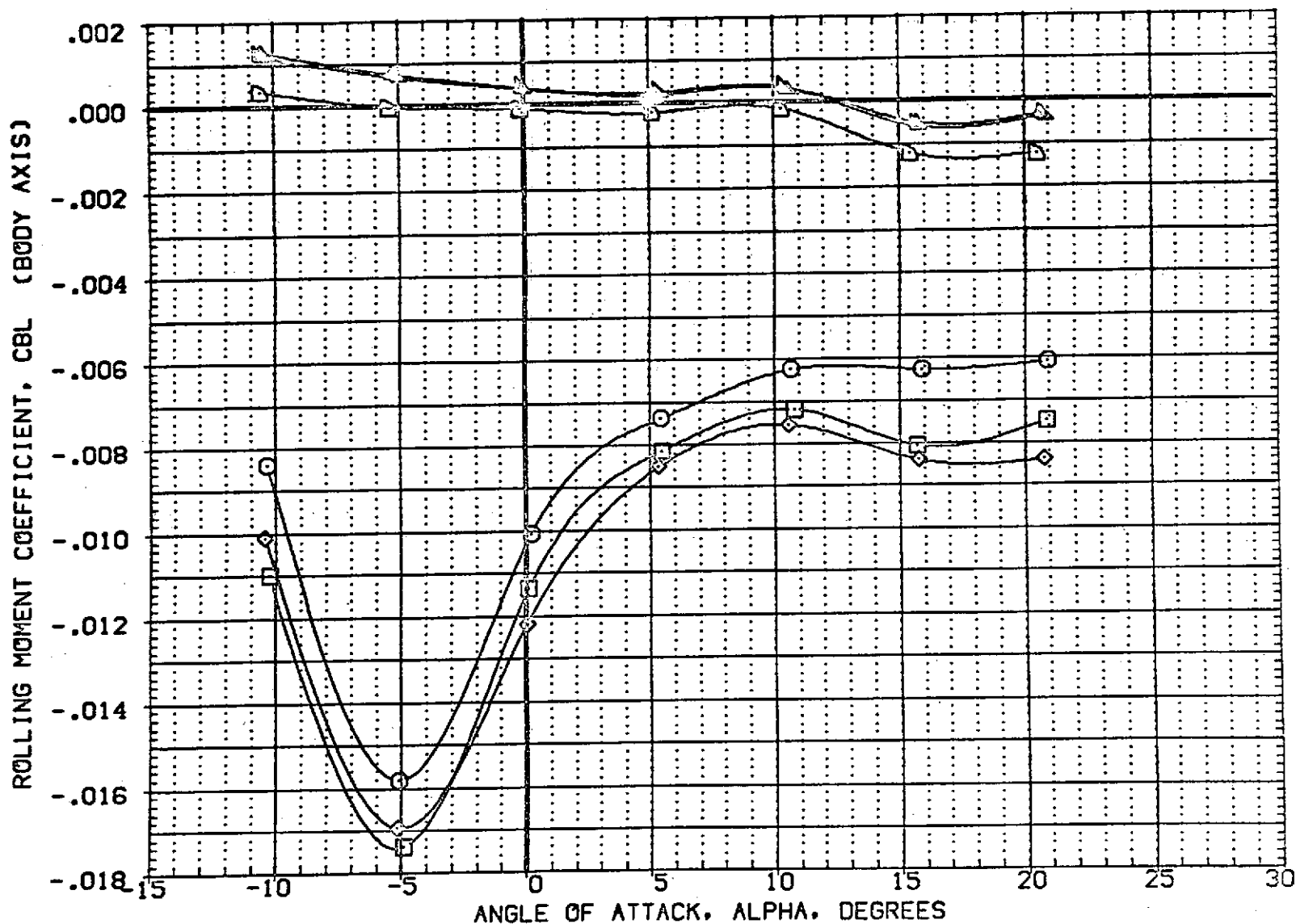


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(RH124N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	39.7360	50.1N.
(RH112N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(RH103N)	1A-60 CFHT109 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	15.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	1A-60 CFHT109 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XYRP	7.3690	INCHES
(RH102F)	1A-60 CFHT109 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	1A-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.9040	INCHES
						SCALE	.0100	SCALE

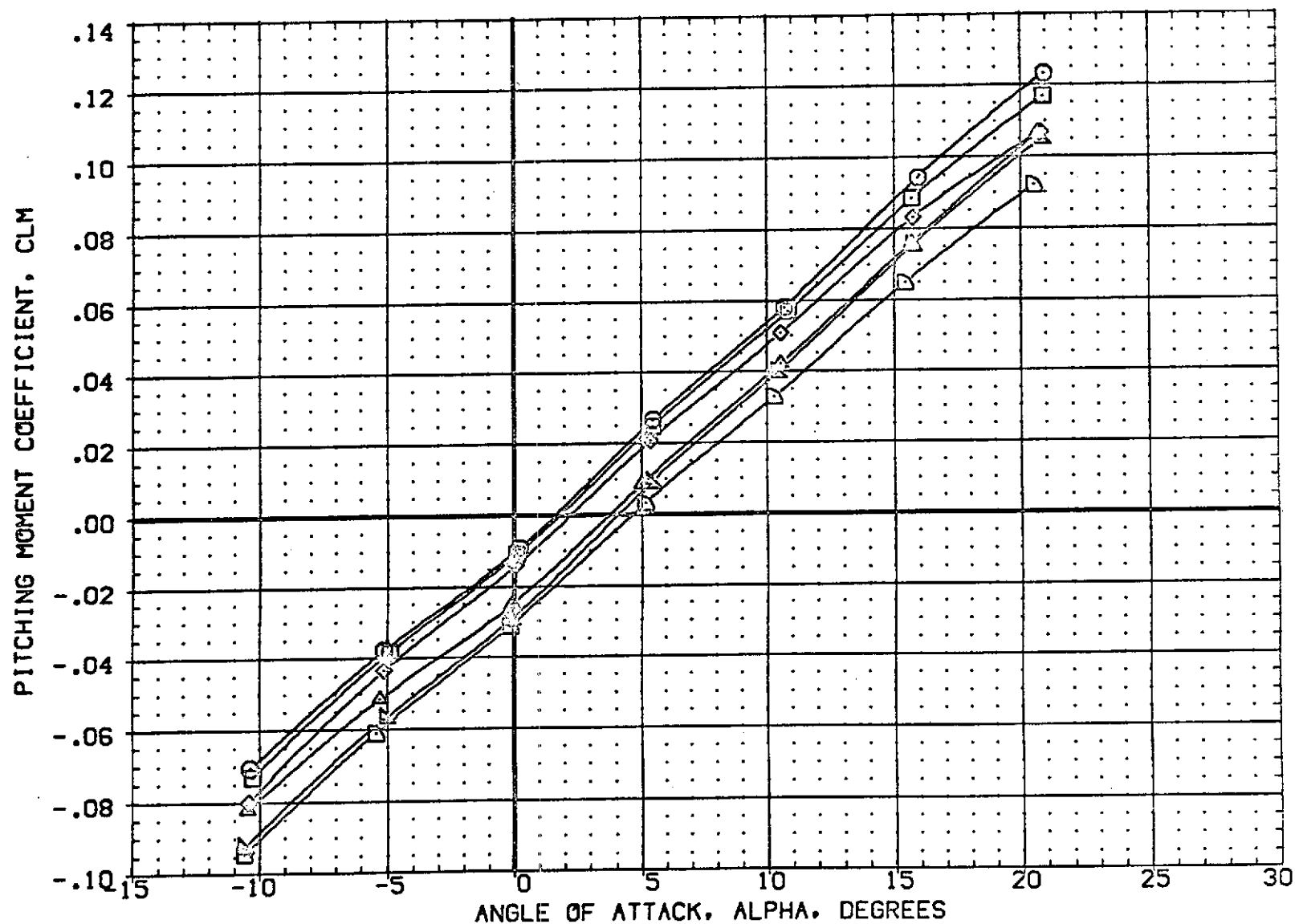


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION,  $Q_{SIM} = 7$  PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH124N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	SREF	38.7360	50.1N.
(RH124N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(RH103N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	.000	-20.000	.000	.000	XMRP	7.3500	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N52	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	.000	15.000	.000	.000	ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

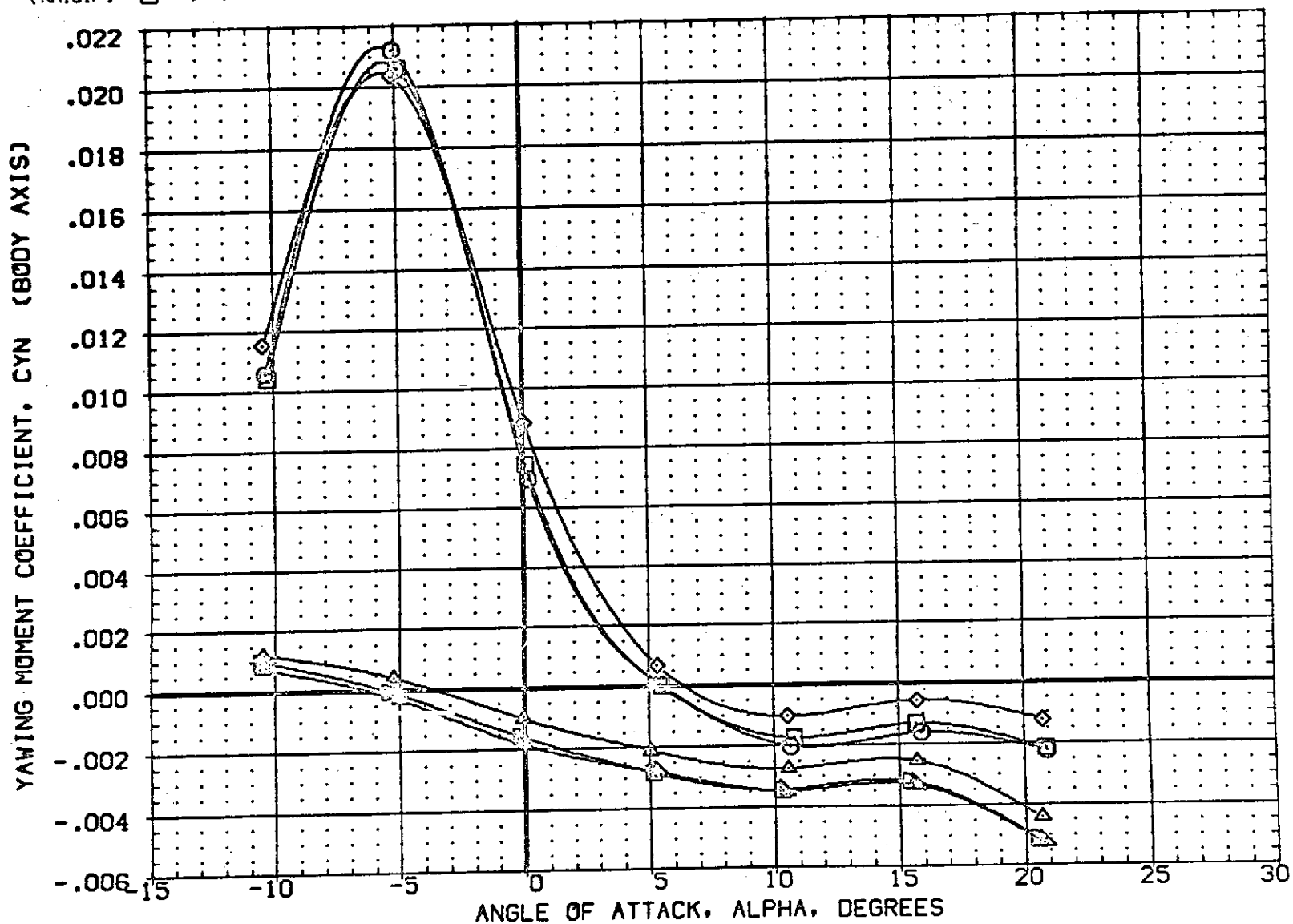


FIG 12 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33



AMPLIFICATION FACTOR ON CBL DUE TO UP AND DOWN FIRING JETS. KBLU/D

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1023)	IA-60 CFHT108 MODEL 32-0T (O T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	33.7360	SQ. IN.
(CH1011)	IA-60 CFHT103 MODEL 32-0T (O T)N49 NS2 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1005)	IA-60 CFHT103 MODEL 32-0T (O T)N49 NS2 ROLL	158.000	15.000	.000	.000	BREF	9.3570	INCHES
						XREF	7.3330	INCHES
						YREF	.0000	INCHES
						ZREF	.9540	INCHES
						SCALE	.0100	SCALE

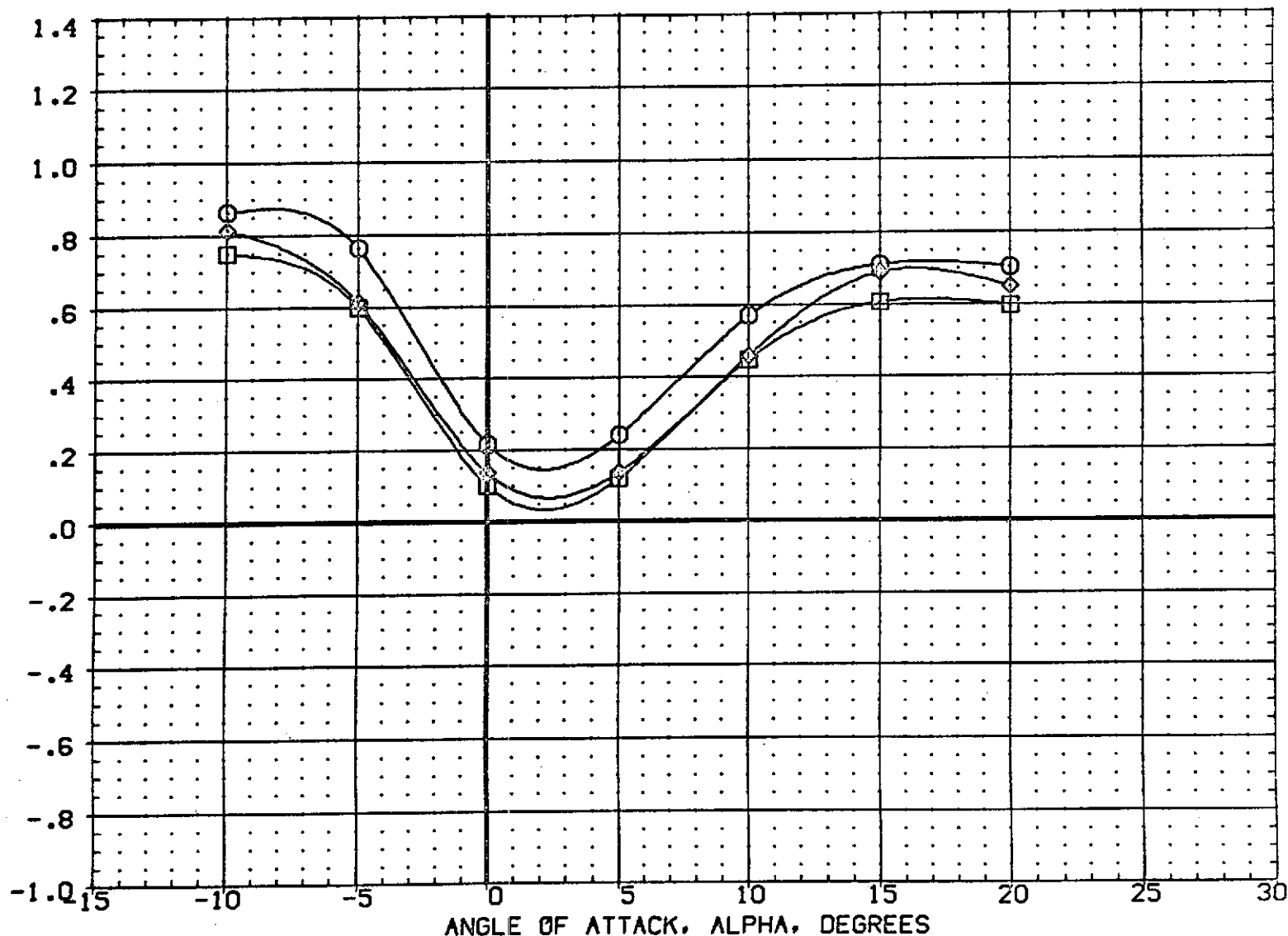


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1023)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	39.7360	SQ. IN.
(CH1011)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1005)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	153.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRF	7.5530	INCHES
						YMRF	.0000	INCHES
						ZMRF	.9340	INCHES
						SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS. KM.BL2

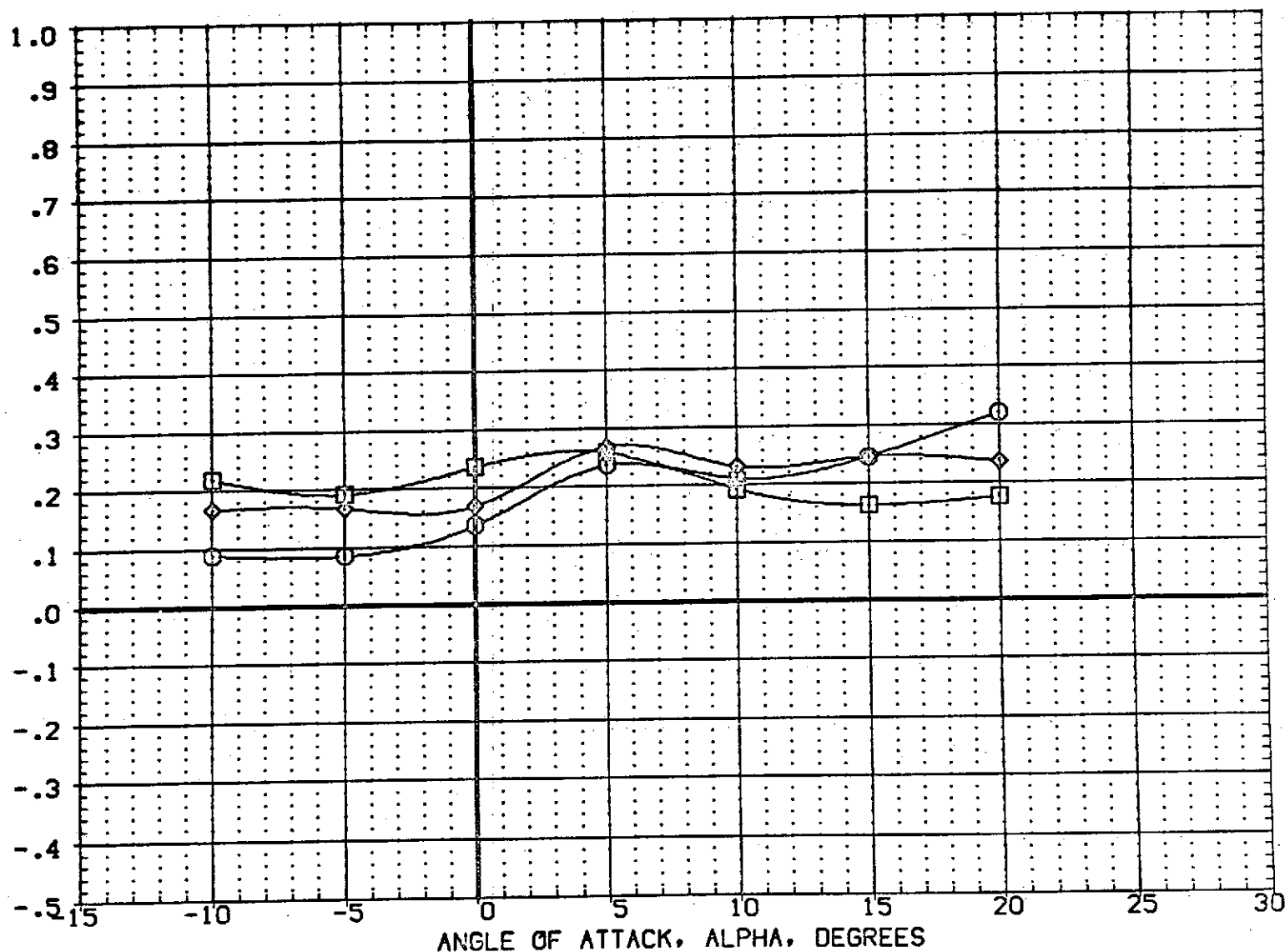


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1023)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	159.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1005)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3630 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS, KYN.L2

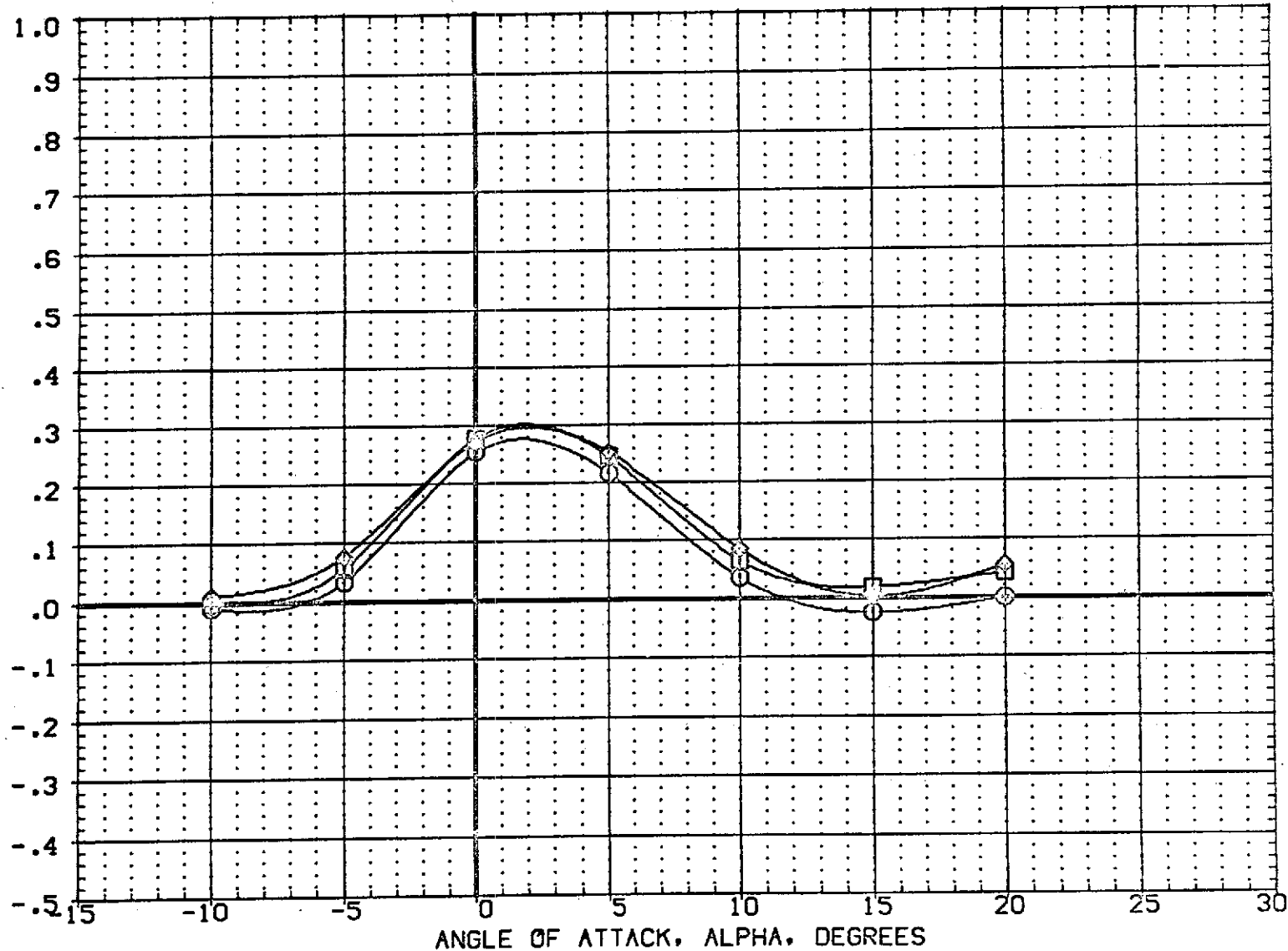


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1023)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(CH1011)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1005)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3630	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

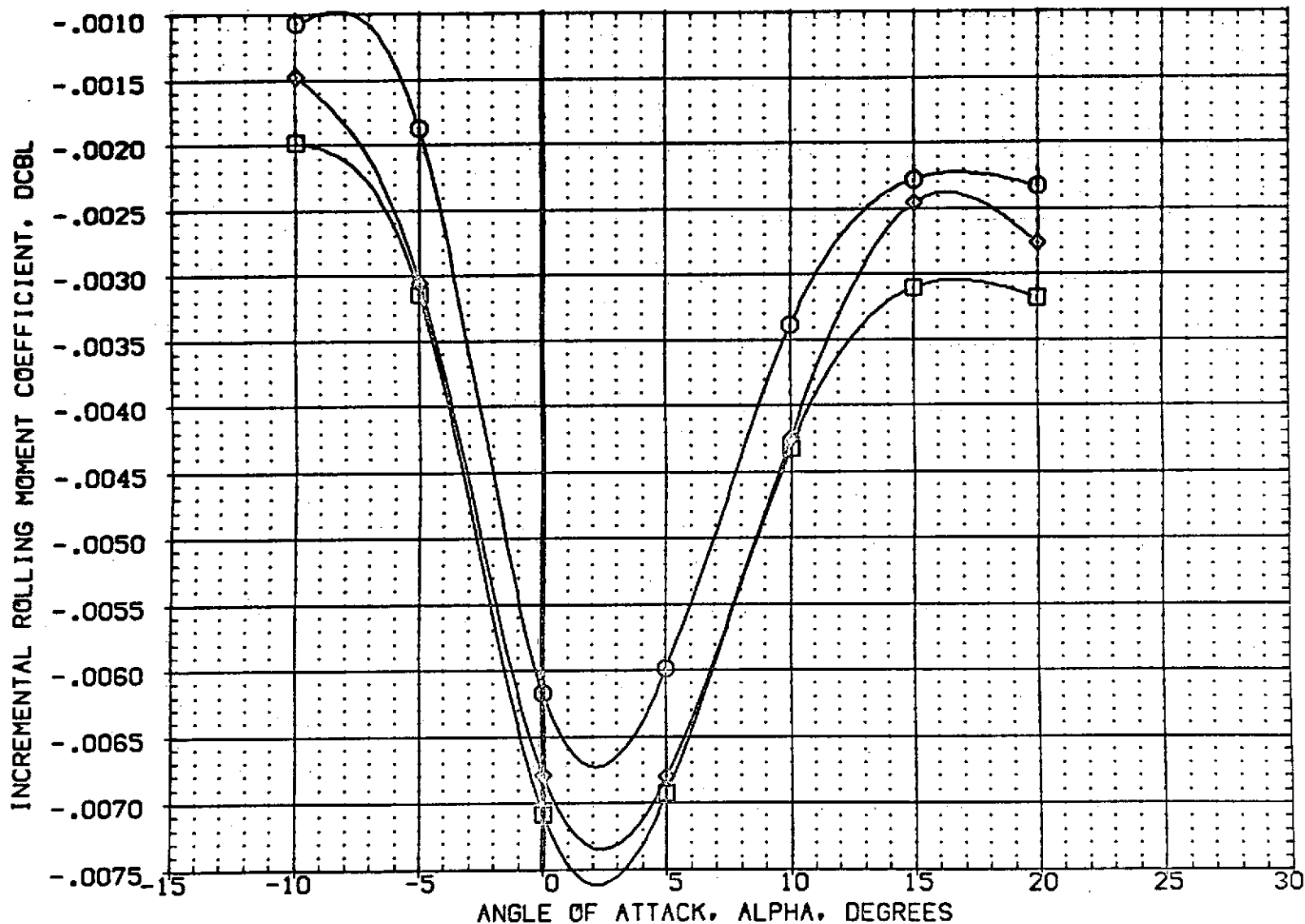


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1023)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	-20.000	.000	.000	SREF	39.7260 SQ. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7460 INCHES
(CH1005)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.2570 INCHES
						XMRP	7.3860 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

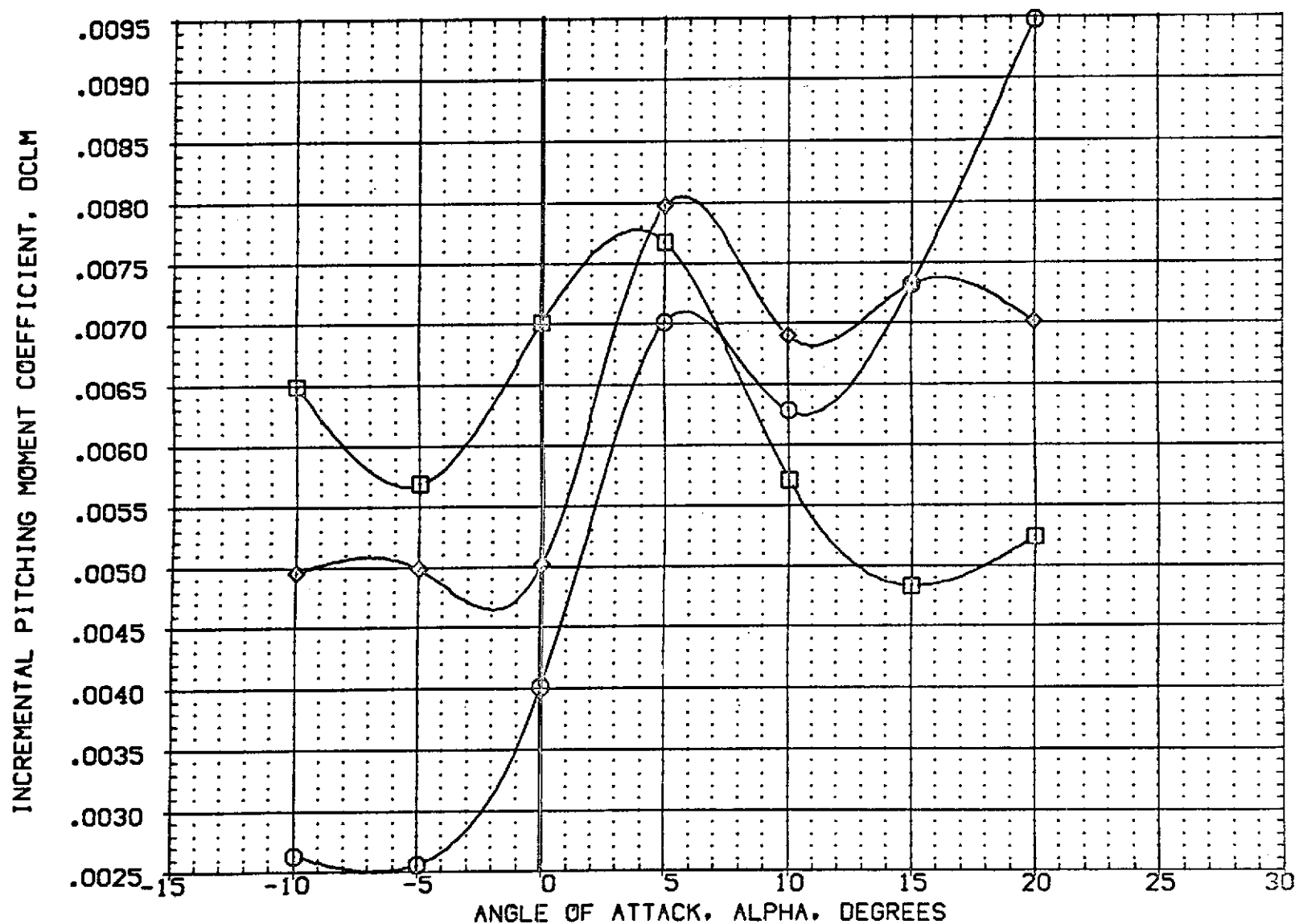


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1023)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	38.7350 SQ. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1005)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3880 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5840 INCHES
						SCALE	.0100 SCALE

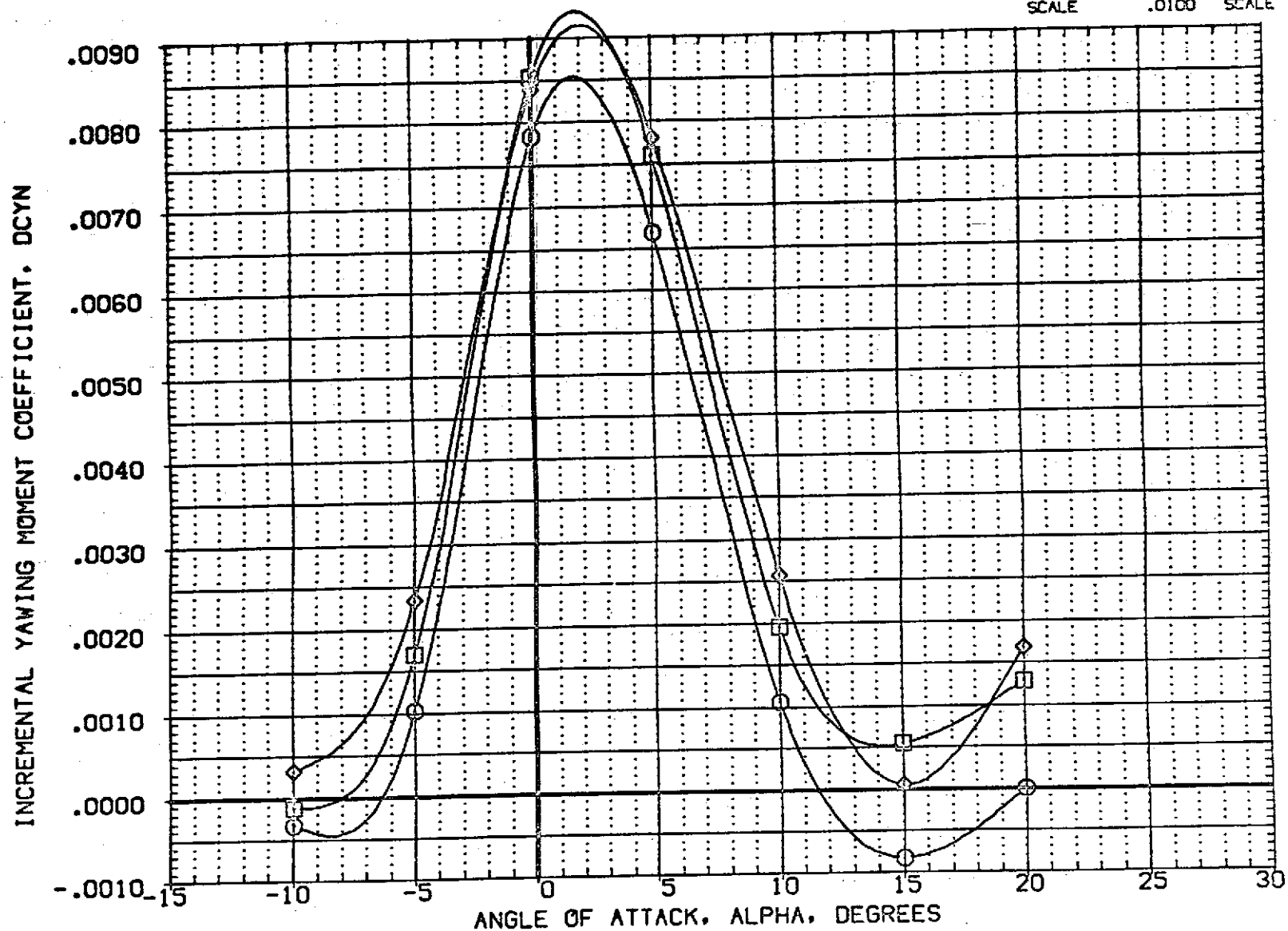


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AIRLON	SPOBRK	REFERENCE INFORMATION		
(R4123N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	39.7350	50. IN.
(R4111N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(R4105N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.3670	INCHES
(R4103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3530	INCHES
(R4102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(R4101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZMRP	.0000	INCHES
						SCALE	.0100	SCALE

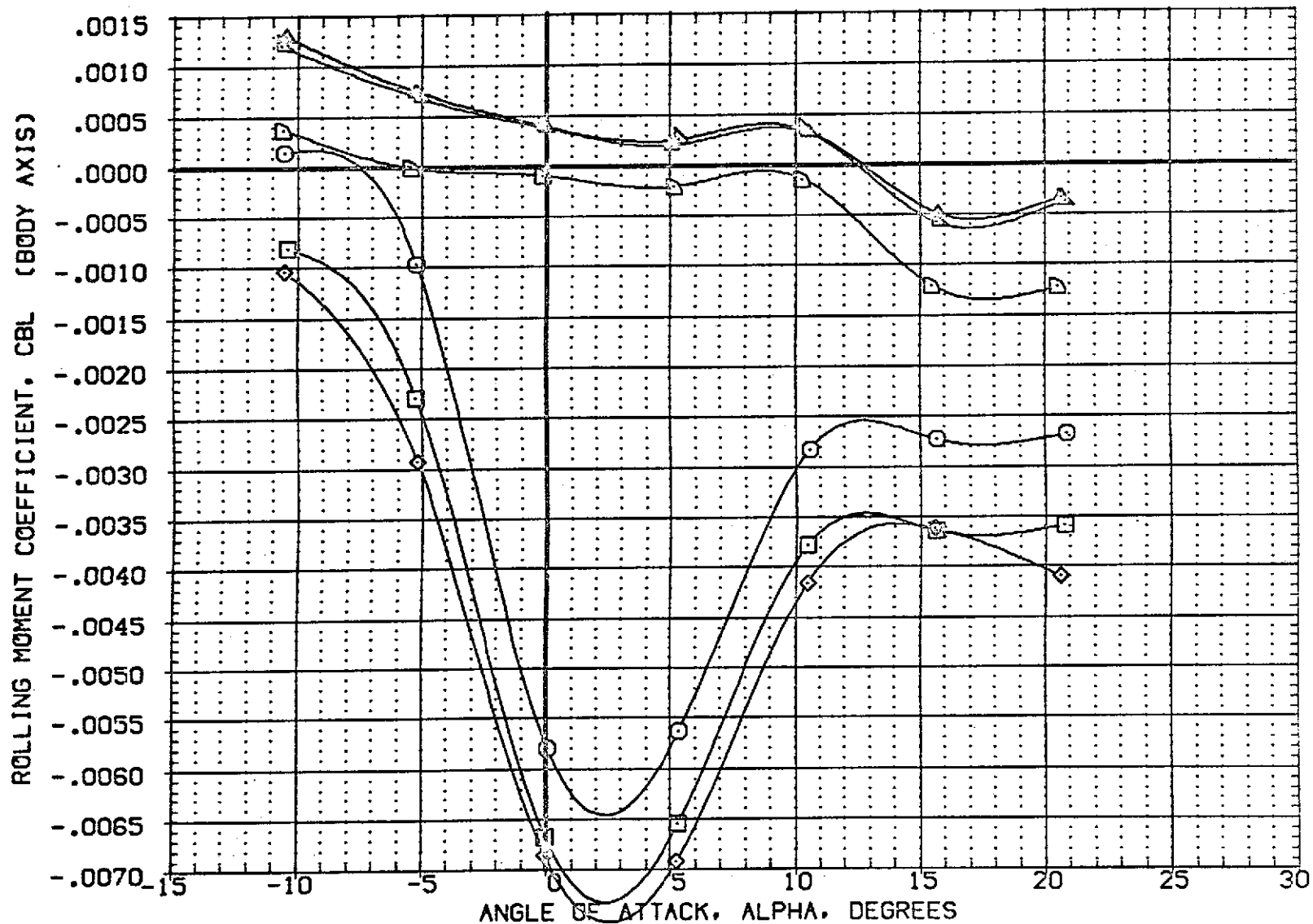


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(R4123N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	38.7350	50. IN.
(R4111N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 N52 ROLL	153.000	.000	.000	.000	LREF	4.7480	INCHES
(R4105N)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 N52 ROLL	153.000	15.000	.000	.000	EREF	9.3370	INCHES
(R4103F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51	.000	-20.000	.000	.000	XGRP	7.3380	INCHES
(R4102F)	IA-60 CFHT108 MODEL 32-OT (0 T)N52	.000	.000	.000	.000	YGRP	.0000	INCHES
(R4101F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51	.000	15.000	.000	.000	ZGRP	.5340	INCHES
						SCALE	.0100	SCALE

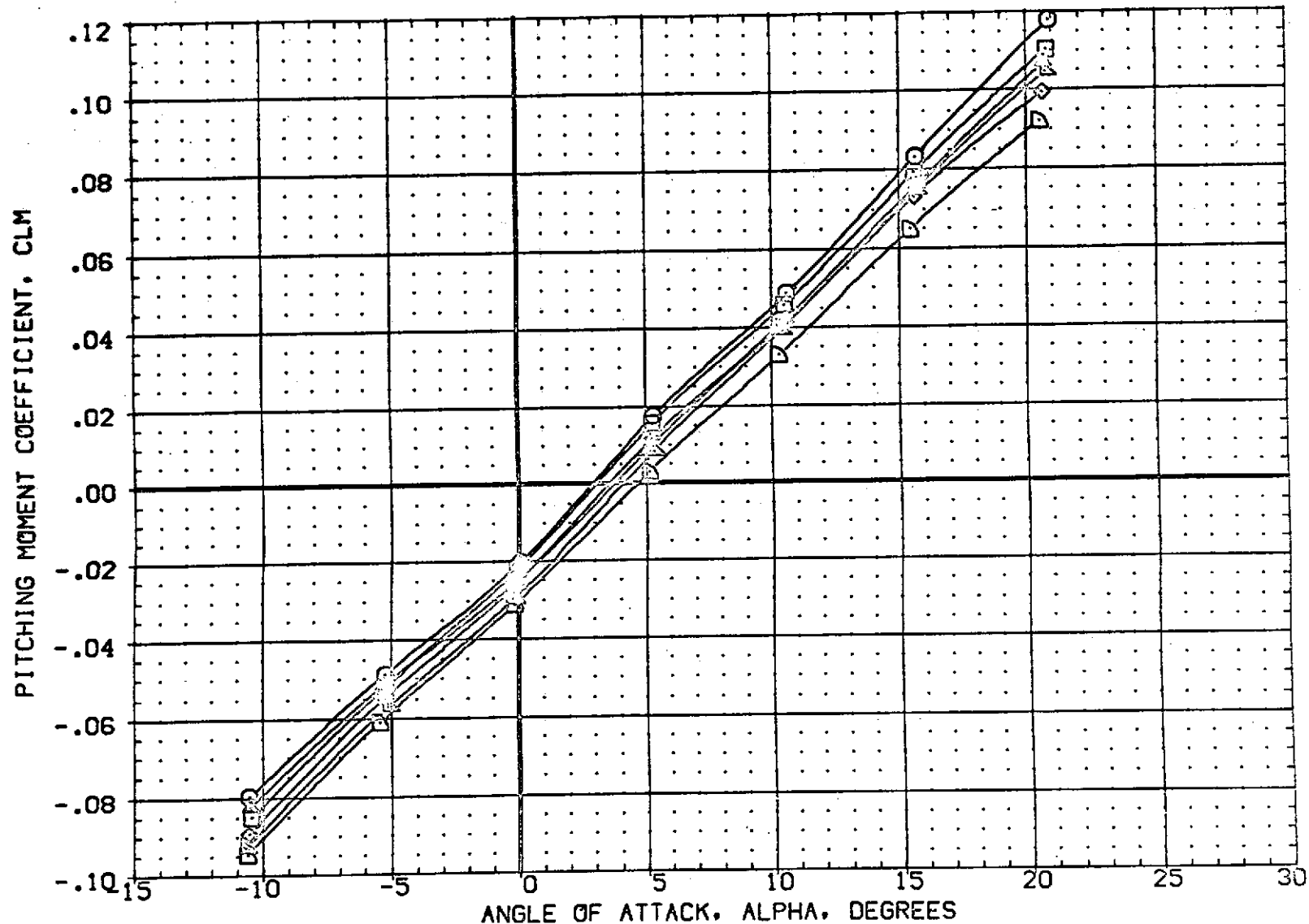


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH123N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	.000	.000	SREF	38.7360	50. IN.
(RH111N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(RH105N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51	RCS OFF	.000	-20.000	.000	XMRF	7.3380	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52	RCS OFF	.000	.000	.000	YMRF	.0000	INCHES
(RH101F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51	RCS OFF	.000	15.000	.000	ZMRF	.9940	INCHES
						SCALE	.0100	SCALE

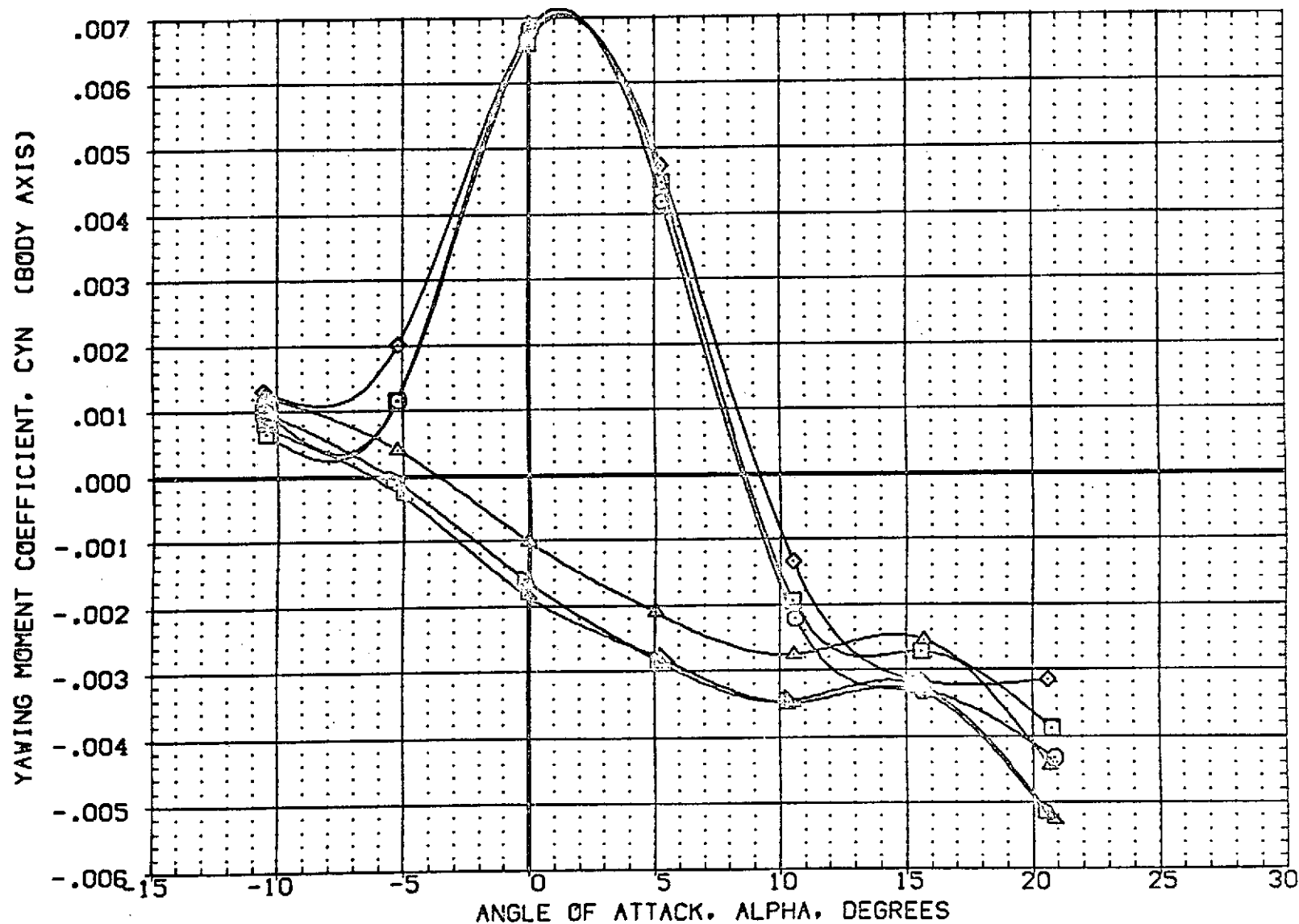


FIG 13 EFFECT OF ELEVON DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

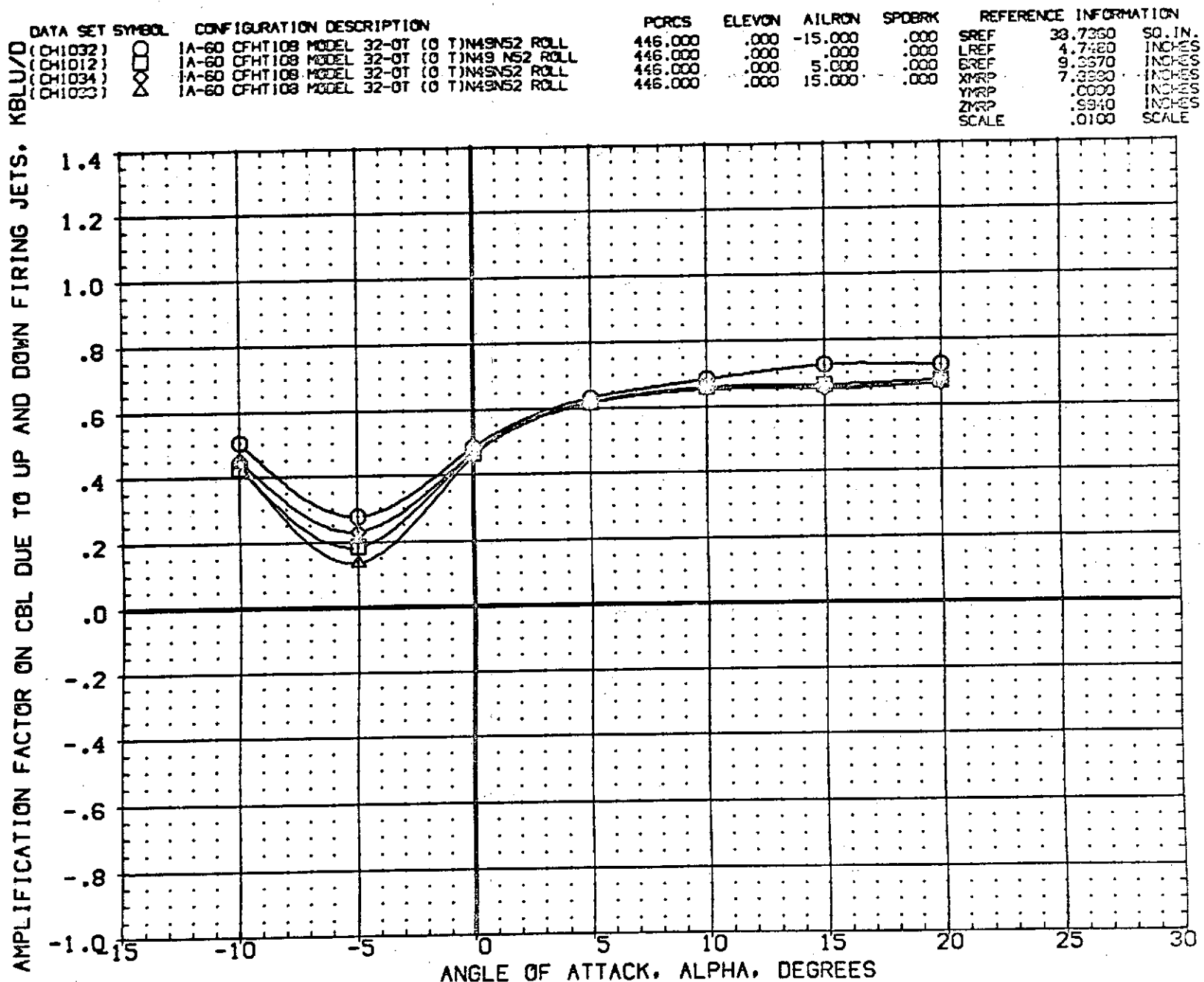


FIG 14 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CH1032) □ IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL  
 (CH1012) □ IA-60 CFHT103 MODEL 32-OT (0 T)N49 N52 ROLL  
 (CH1034) ◇ IA-60 CFHT102 MODEL 32-OT (0 T)N4SAS2 ROLL  
 (CH1020) △ IA-60 CFHT103 MODEL 32-OT (0 T)N4SAS2 ROLL

PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
445.000	.000	-15.000	.000	SREF	38.7360	50. IN.
445.000	.000	.000	.000	LREF	4.7430	INCHES
445.000	.000	5.000	.000	BREF	9.3570	INCHES
445.000	.000	15.000	.000	XMRP	7.3680	INCHES
				YMRP	.0000	INCHES
				ZMRP	.5340	INCHES
				SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS. KM.BL2

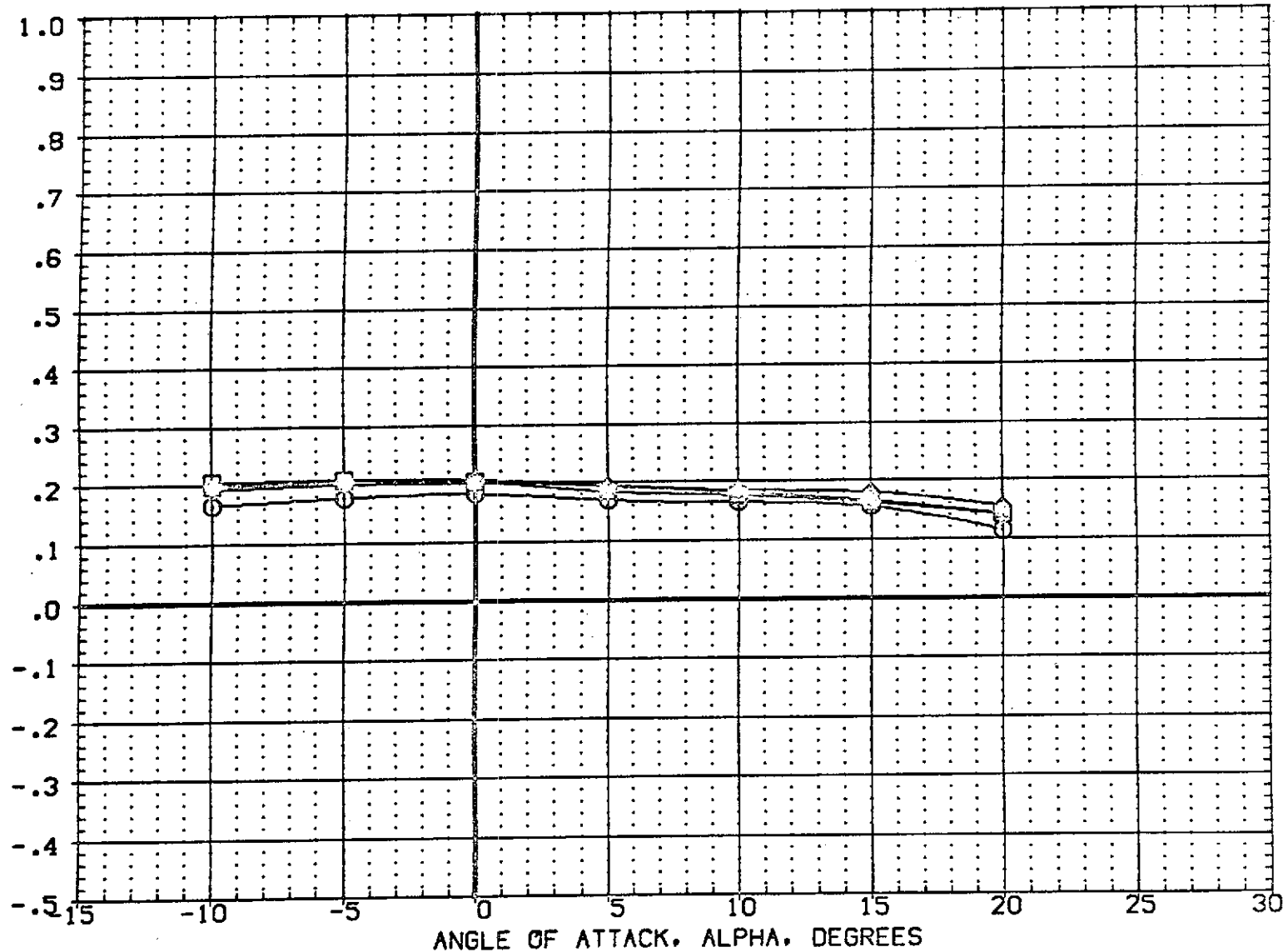


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF

(A)MACH = 10.33

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS, KYN.L2

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1032)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	39.7360	SQ. IN.
(CH1012)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1034)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	.000	5.000	.000	BREF	9.3670	INCHES
(CH1038)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	.000	15.000	.000	XMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

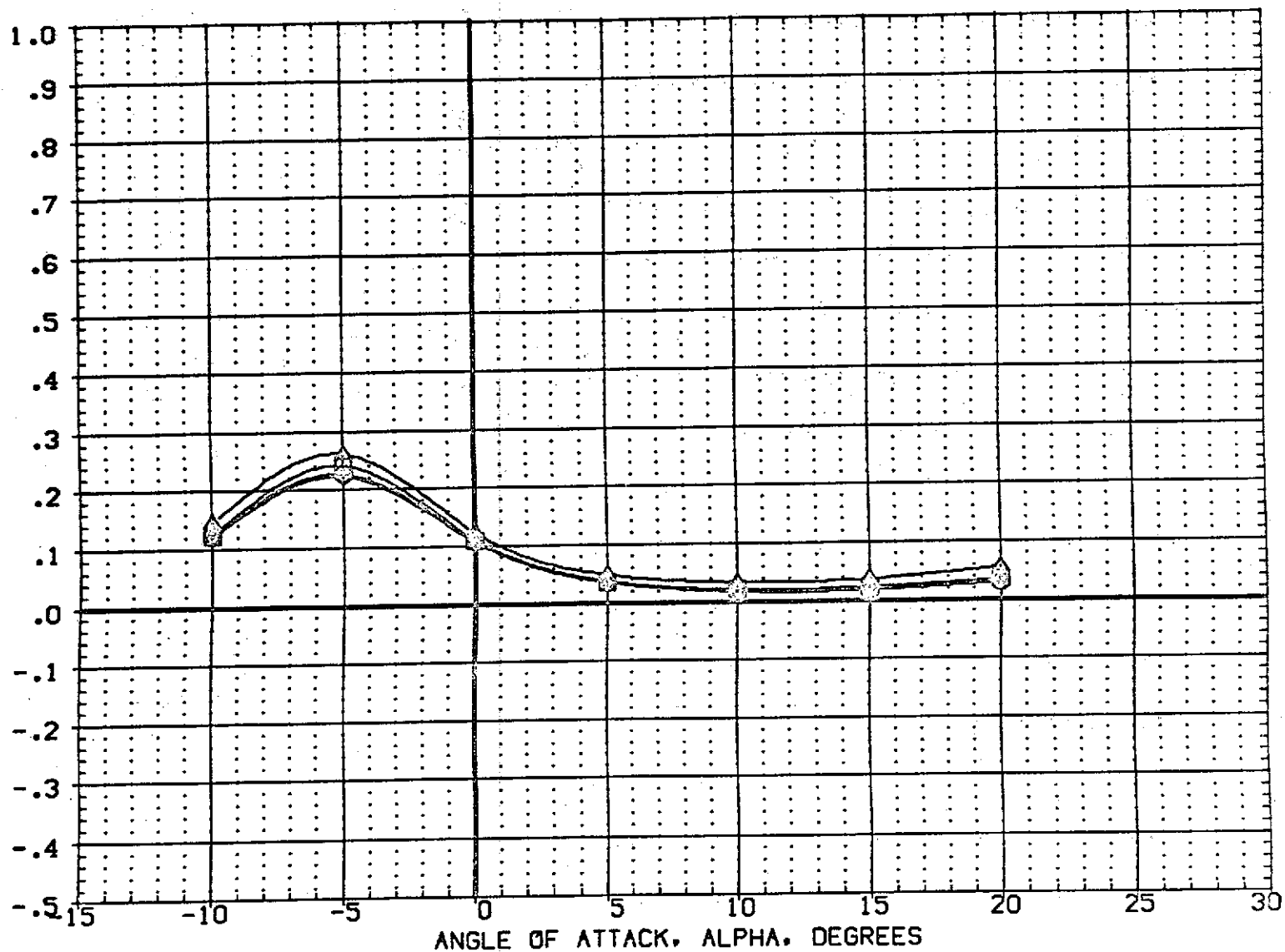


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1032)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	38.7360 SQ. IN.
(CH1012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1034)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	BREF	9.3570 INCHES
(CH1039)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	15.000	.000	XMRP	7.3800 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9300 INCHES
						SCALE	.0100 SCALE

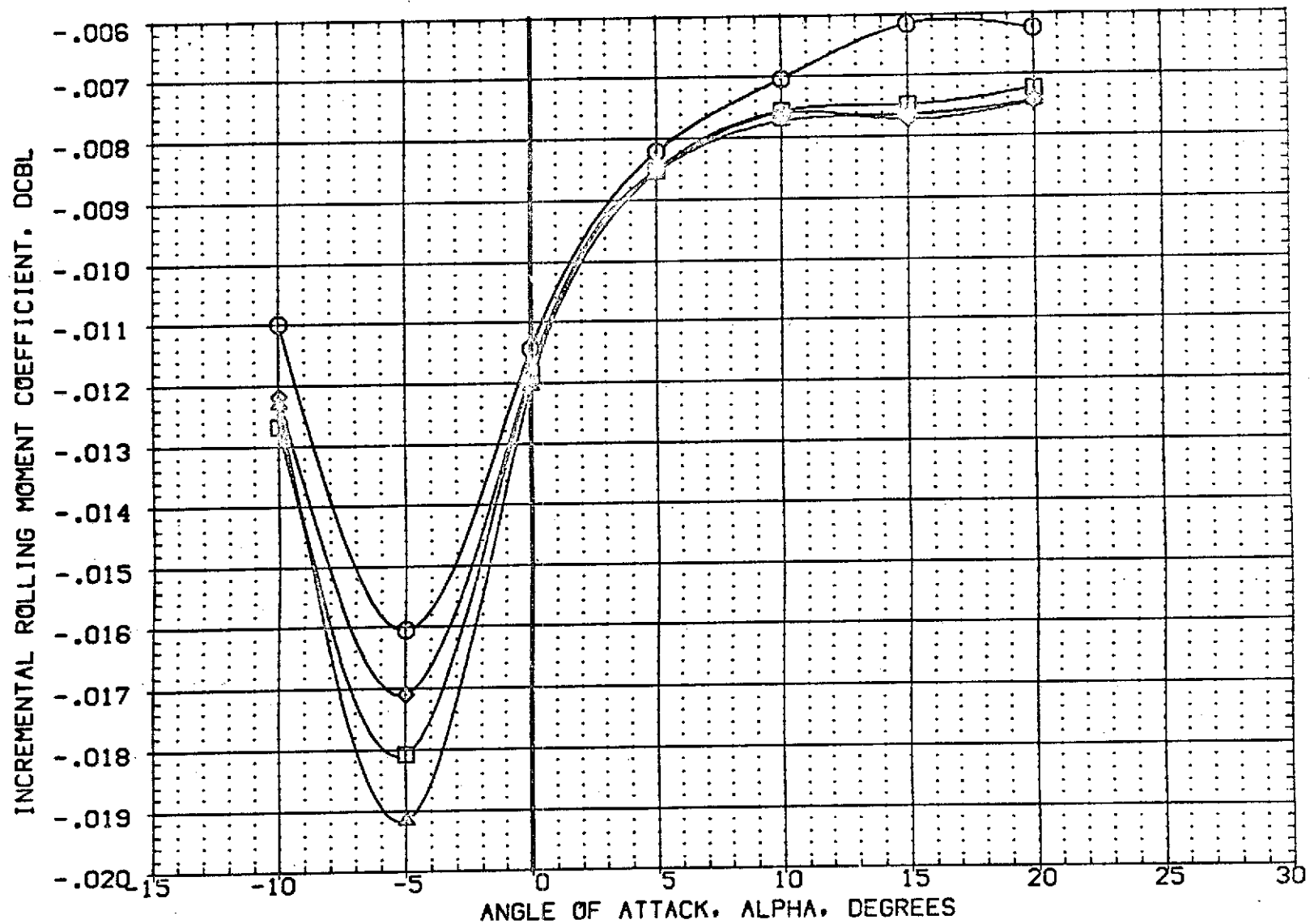


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1032)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	38.7360	50. IN.
(CH1012)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1034)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	BREF	9.3570	INCHES
(CH1038)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	15.000	.000	XMRP	7.3320	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

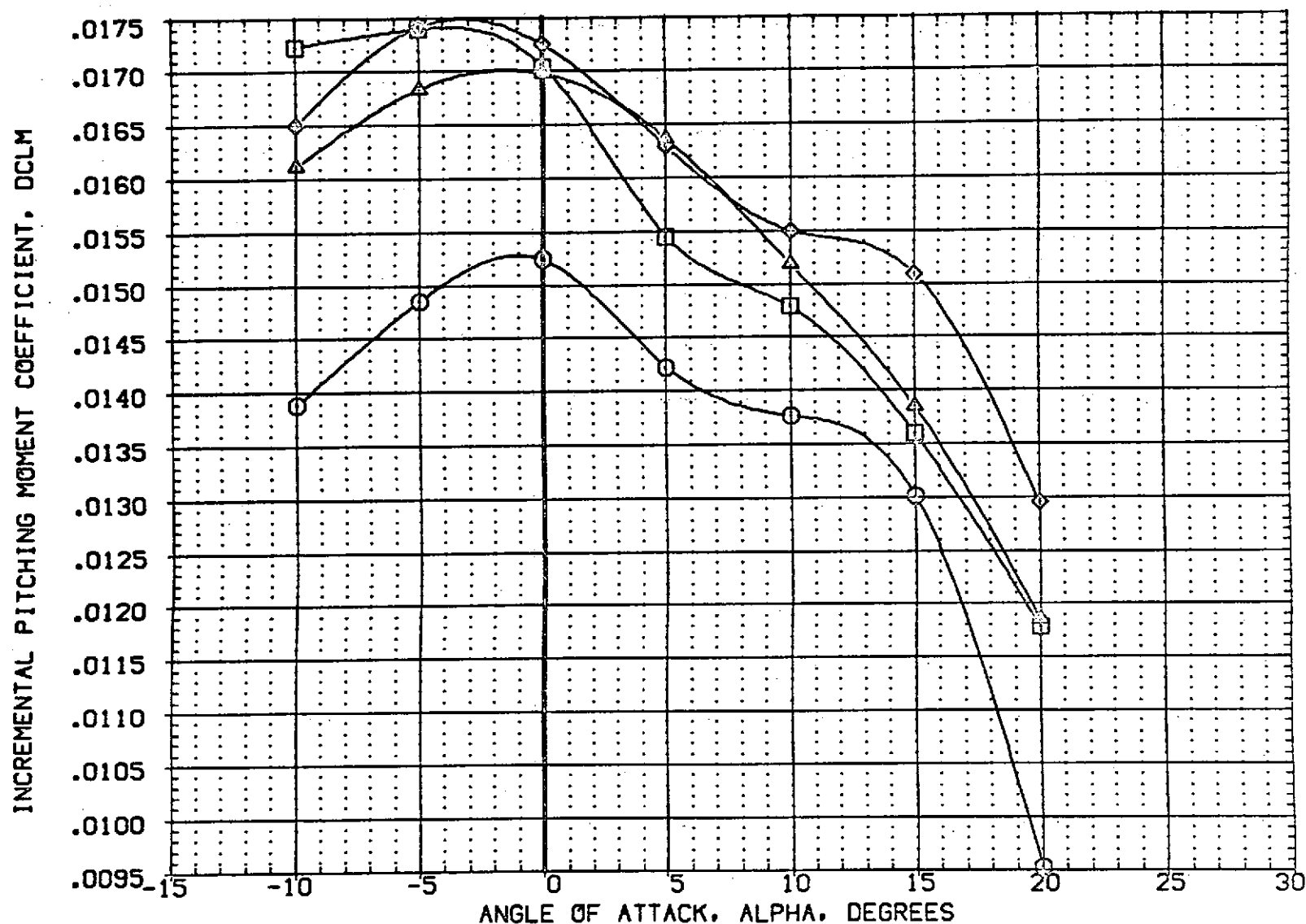


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1032)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	33.7360	SQ. IN.
(CH1012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1034)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	BREF	9.3570	INCHES
(CH1033)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	15.000	.000	XMRP	7.3200	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

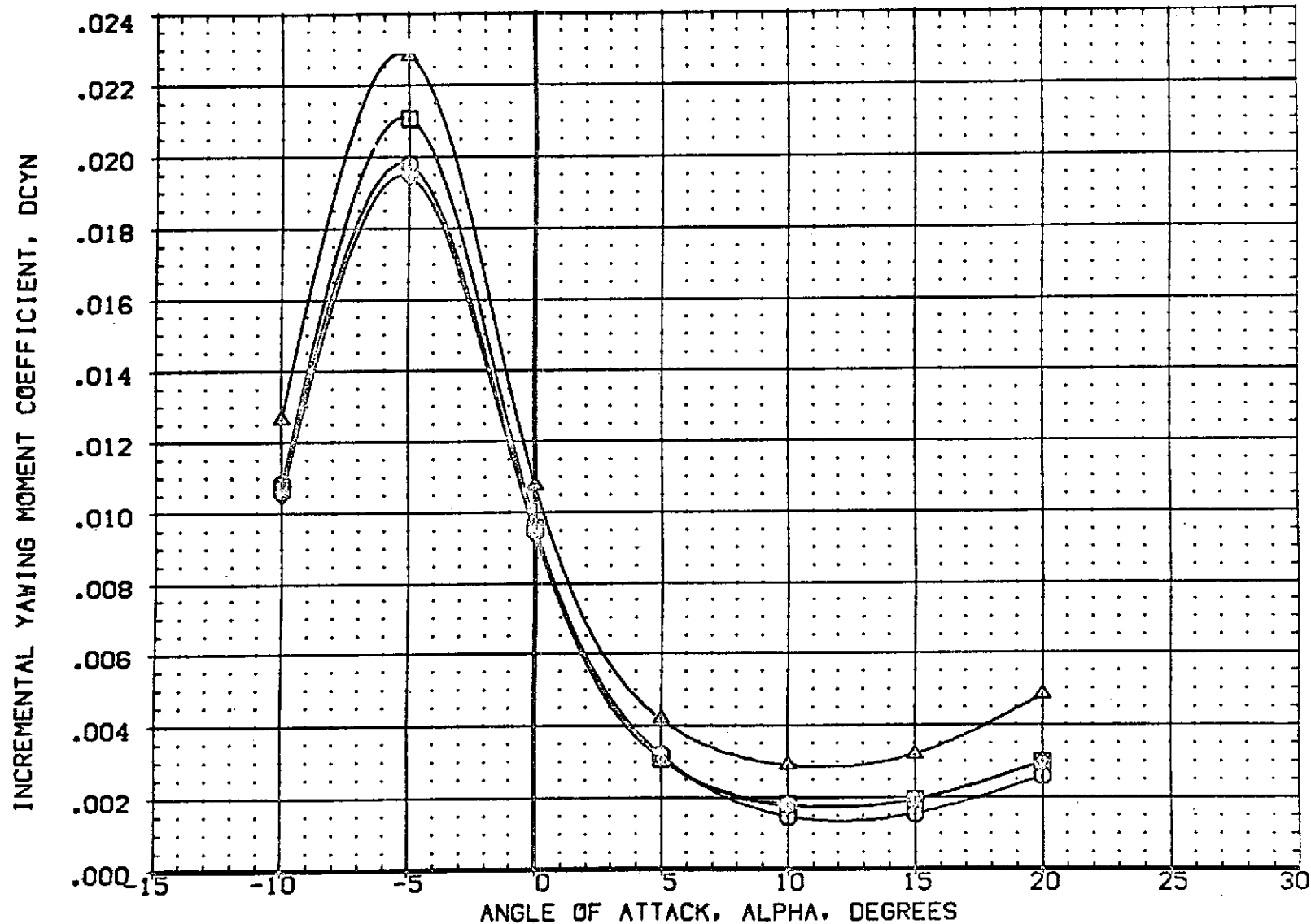


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(ZH132N)	IA-60 CFHT103 MODEL 32-OT (0 TJN49N52 ROLL	446.000	.000	-15.000	.000	SREF	38.7360	50. IN.
(RH112N)	IA-60 CFHT103 MODEL 32-OT (0 TJN49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7480	INCHES
(RH105F)	IA-60 CFHT103 MODEL 32-OT (0 TJN49 N52 RCS OFF	.000	.000	-15.000	.000	BREF	9.3570	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 TJN52 RCS OFF	.000	.000	.000	.000	XYRP	7.3020	INCHES
						YMRP	.0050	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

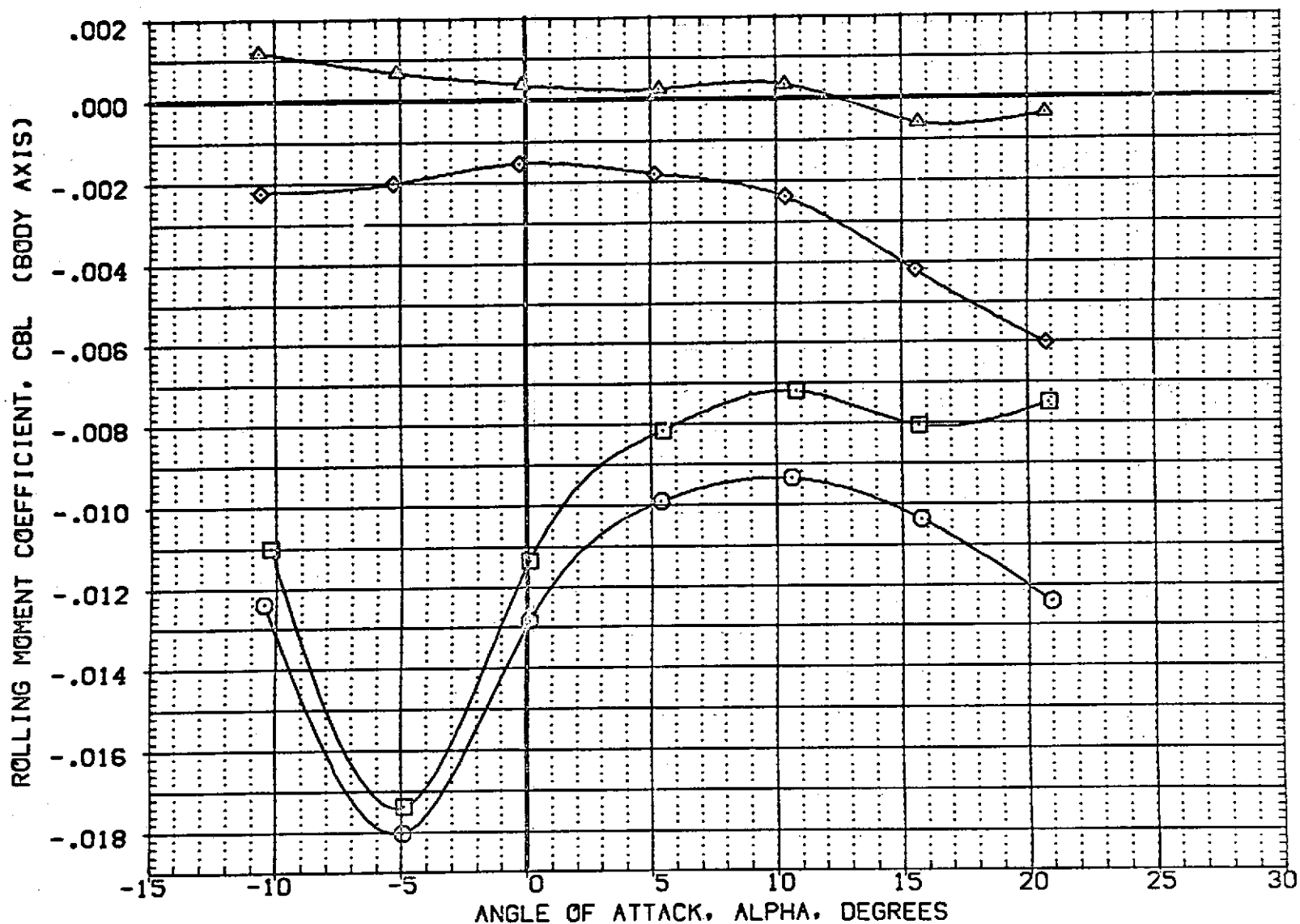


FIG 14 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF

(A) MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(ZH132N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	33.7350 SQ. IN.
(RH112N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	LREF	4.7460 INCHES
(RH105F)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	-15.000	.000	BREF	9.3570 INCHES
(RH102F)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XMRP	7.3220 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

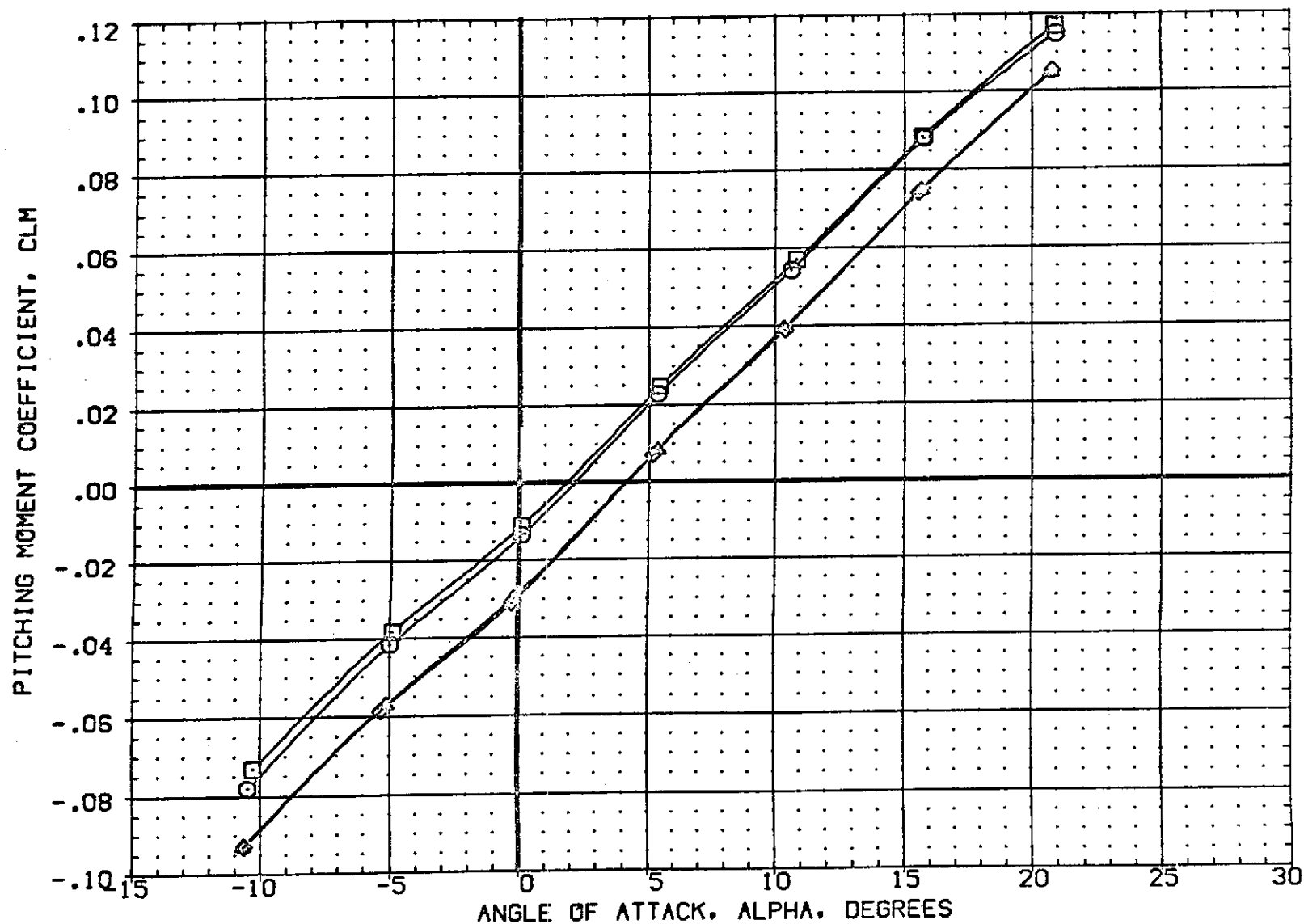


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDRBK	REFERENCE INFORMATION	
(2H132N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	-15.000	.000	SREF	33.7380 SQ. IN.
(RH112N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 NS2 ROLL	446.000	.000	.000	.000	LREF	4.7480 INCHES
(RH105F)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 NS2 RCS OFF	.000	.000	-15.000	.000	BREF	9.2570 INCHES
(RH102F)	1A-60 CFHT103 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	XMRP	7.2580 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9040 INCHES
						SCALE	.0100 SCALE

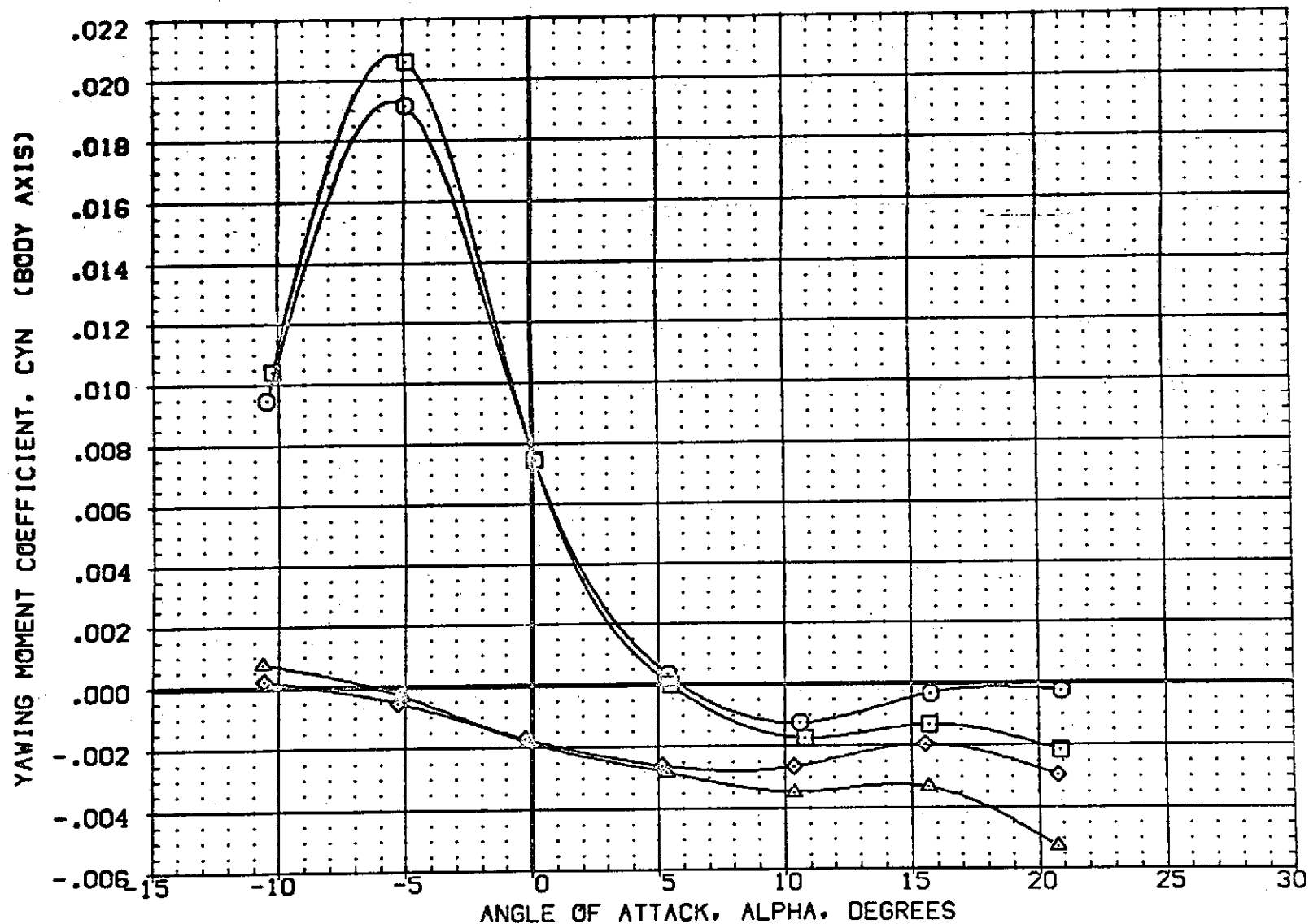


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(ZH134N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	SREF	38.7360 SQ. IN.
(RH132N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	15.000	.000	LREF	4.7480 INCHES
(RH106F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	BREF	9.3570 INCHES
(RH104F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3360 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

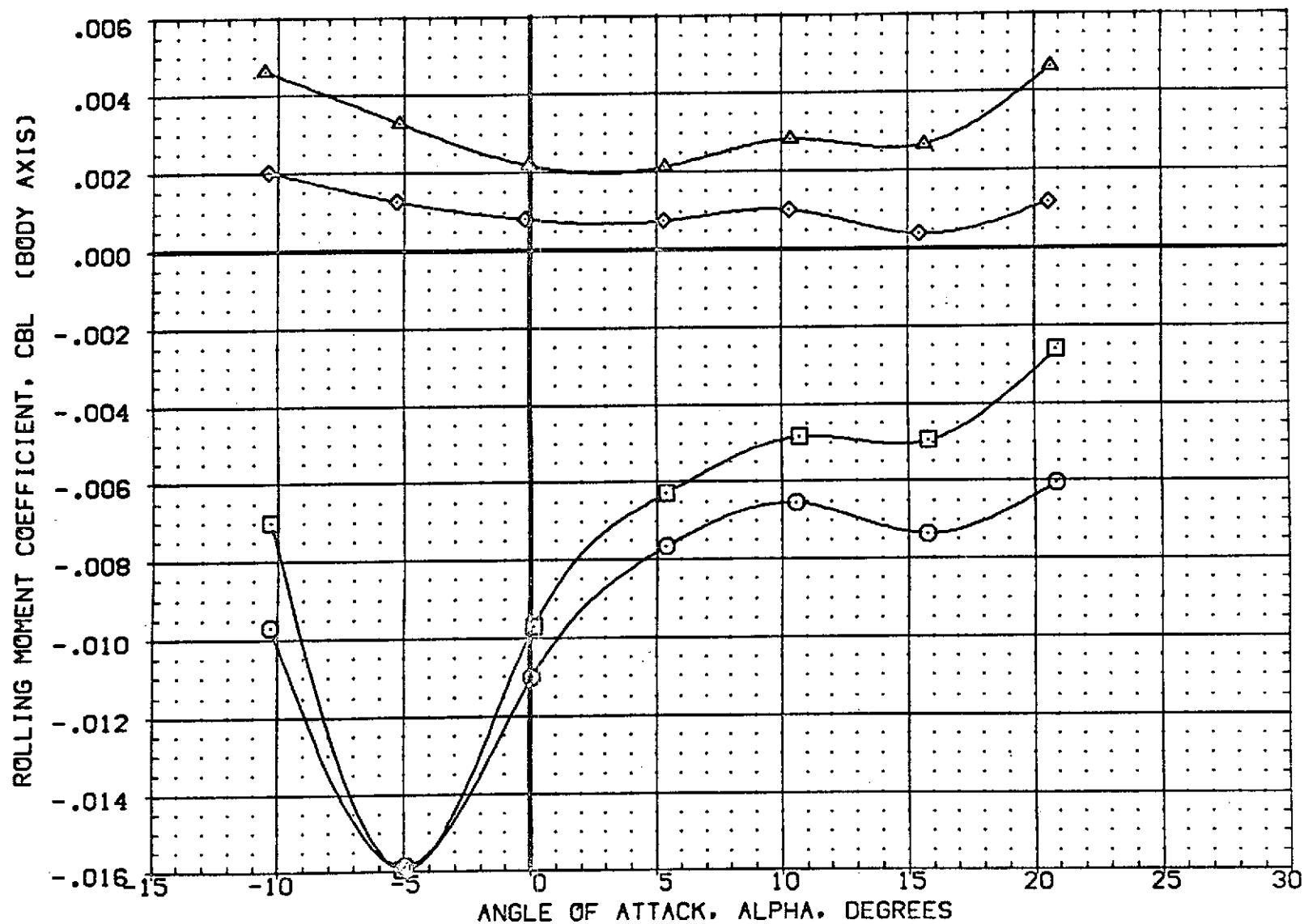


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(ZH134N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	SREF	38.7360	50. IN.
(RH138N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	15.000	.000	LREF	4.7490	INCHES
(RH106F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	EREF	9.3570	INCHES
(RH104F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3520	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9540	INCHES
						SCALE	.0100	SCALE

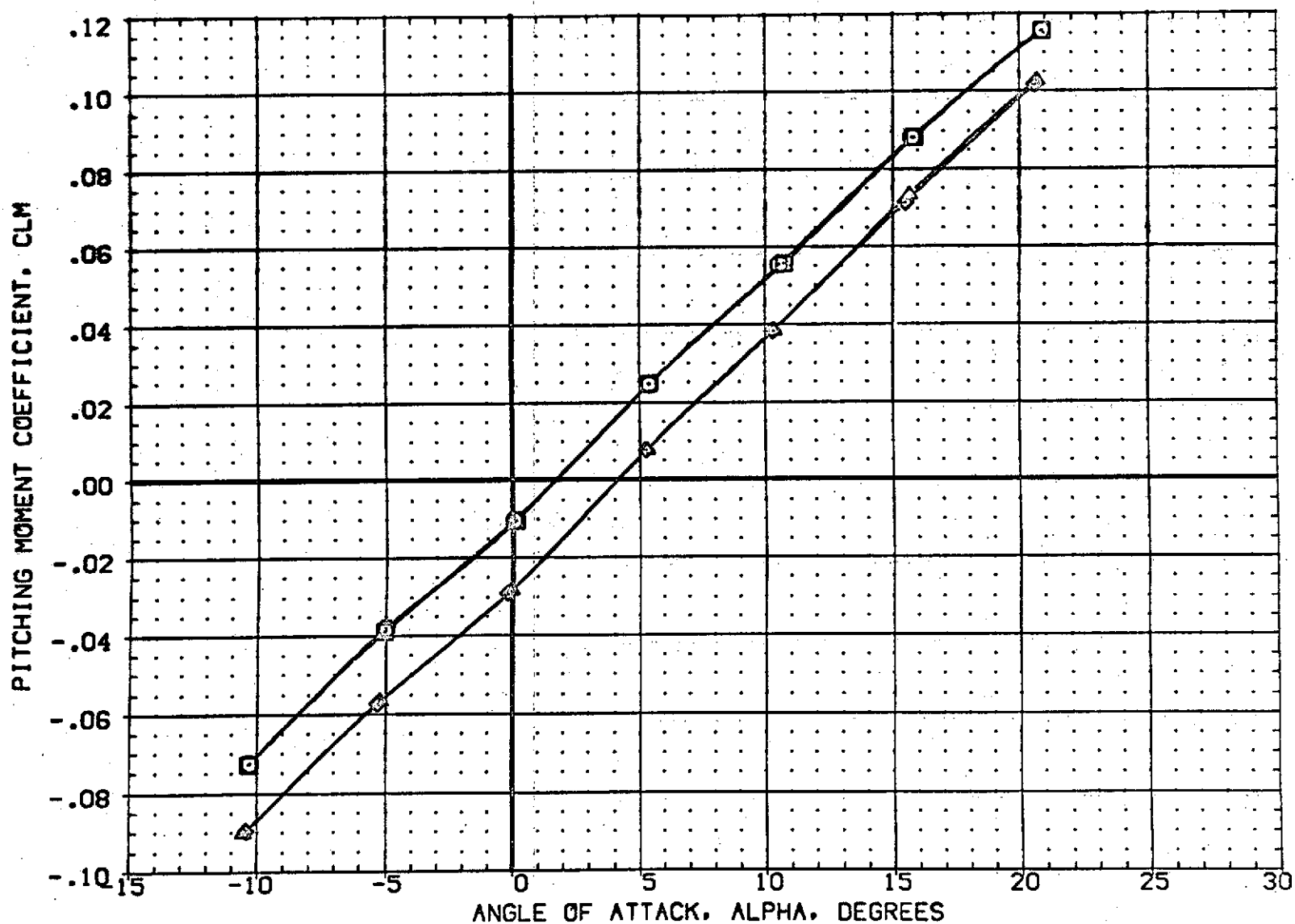


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDRBK	REFERENCE INFORMATION		
(ZH134N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	5.000	.000	SREF	33.7360	50.1N.
(RH138N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.030	15.000	.000	LREF	4.7460	INCHES
(RH108F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	EREF	9.3570	INCHES
(RH104F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XGRP	7.5000	INCHES
						YGRP	.0000	INCHES
						ZGRP	.0040	INCHES
						SCALE	.0100	SCALE

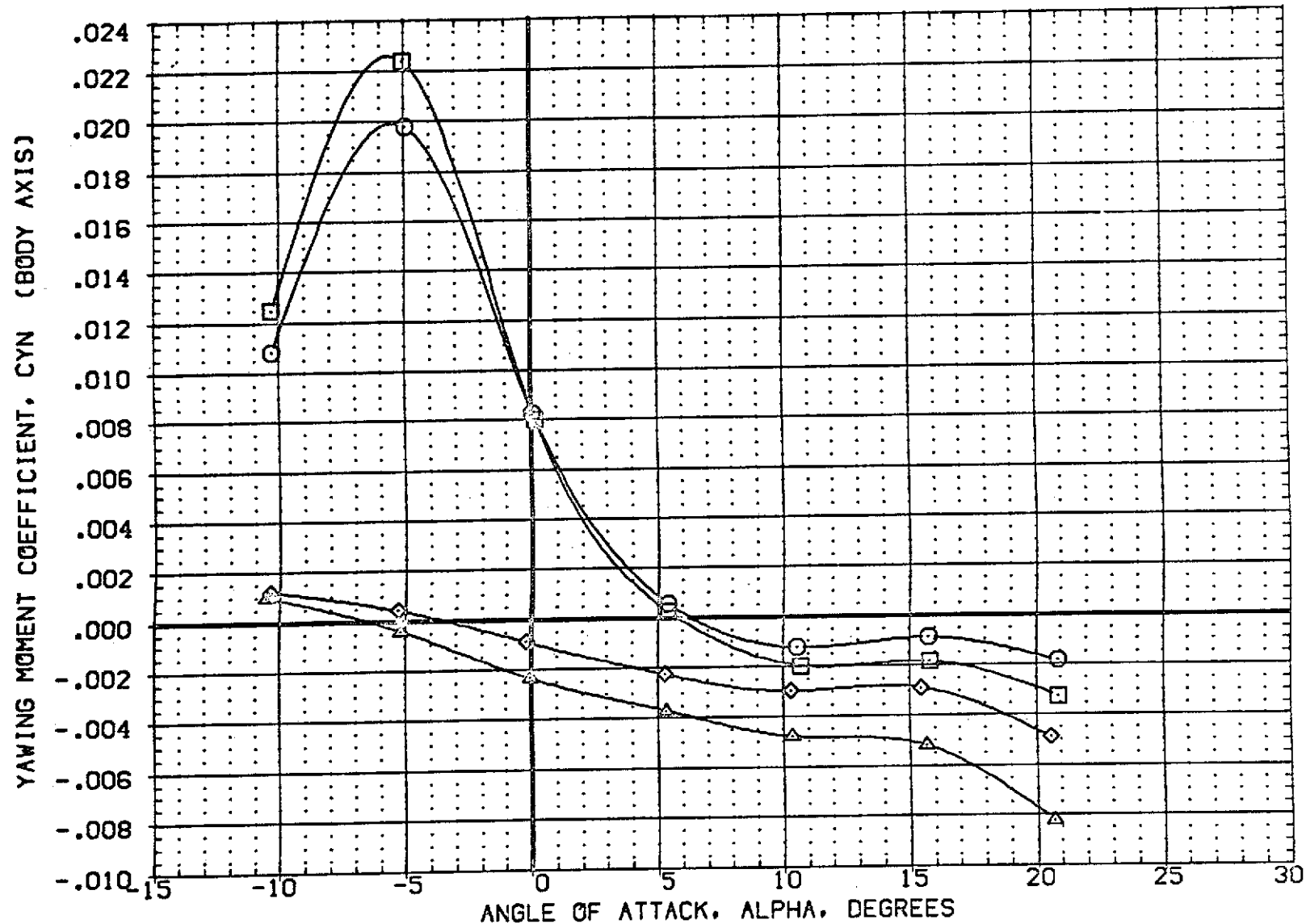


FIG 14 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1031)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	39.7360	SQ. IN.
(CH1011)	1A-60 CFHT109 MODEL 32-0T (0 T)N49 N52 ROLL	159.000	.000	.000	.000	LREF	4.7490	INCHES
(CH1033)	1A-60 CFHT109 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	5.000	.000	BREF	9.3670	INCHES
(CH1037)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	XMRP	7.3630	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

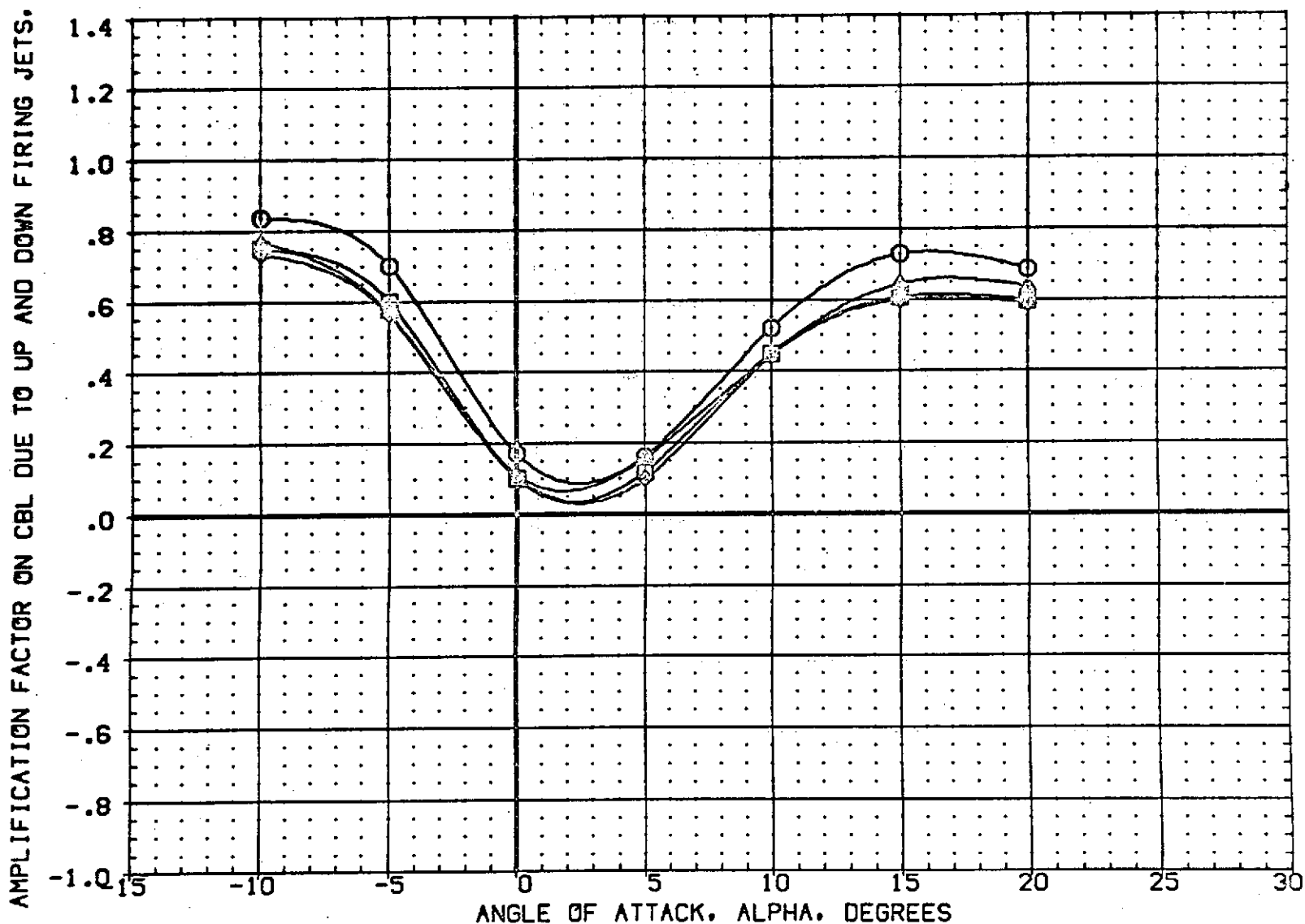


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1031)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	33.7360	SQ. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1033)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	.000	5.000	.000	BREF	9.2670	INCHES
(CH1037)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	XMRP	7.3600	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0010	INCHES
						SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS, KM,BL2

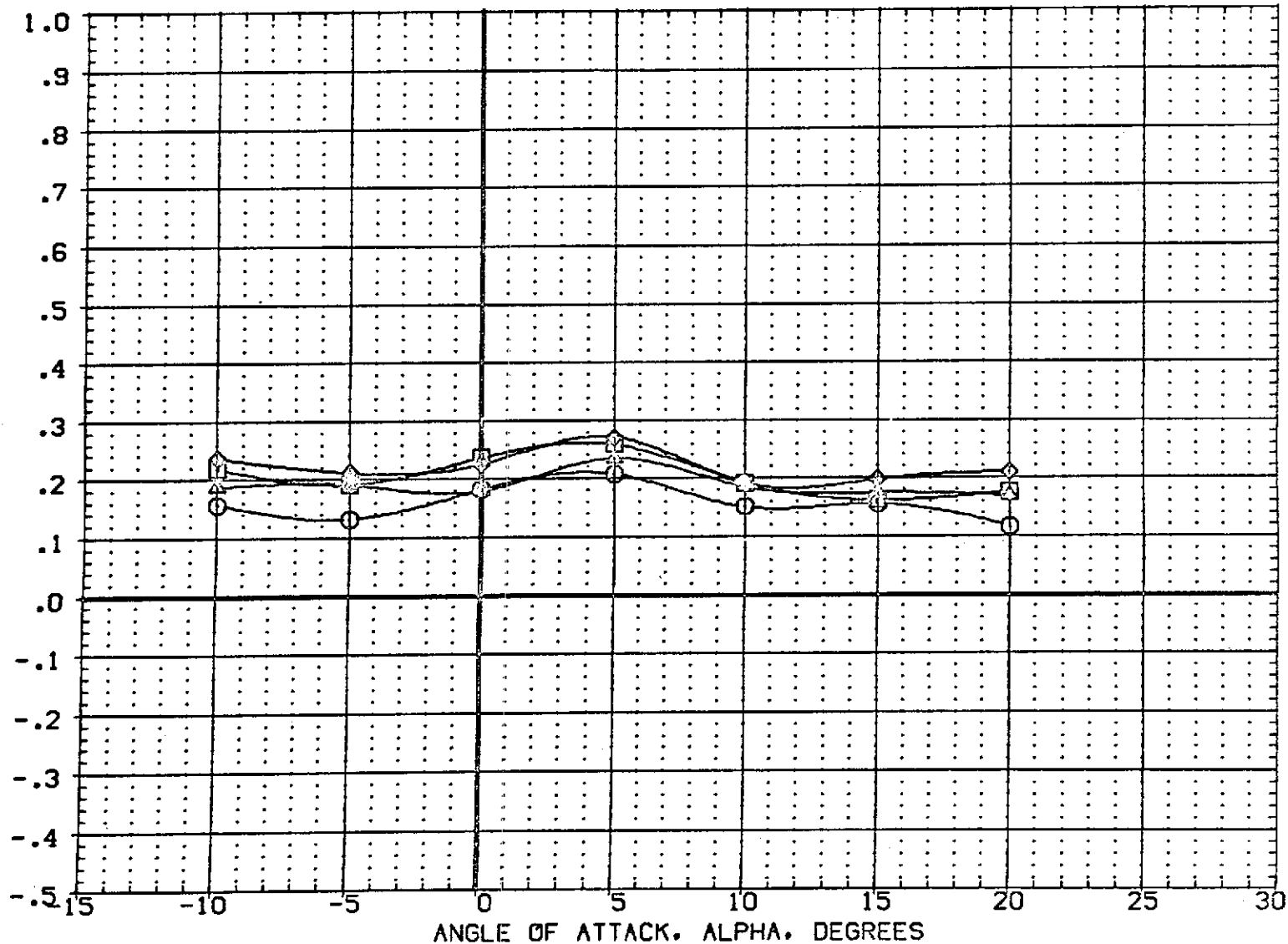


FIG 15 EFFECT OF A<sup>TDMA</sup> REFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1031)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	39.7360	SQ. IN.
(CH1011)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7420	INCHES
(CH1033)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	.000	5.000	.000	BREF	9.3570	INCHES
(CH1037)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	XGRP	7.3590	INCHES
						YGRP	.0000	INCHES
						ZGRP	.9940	INCHES
						SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS. KYN.L2

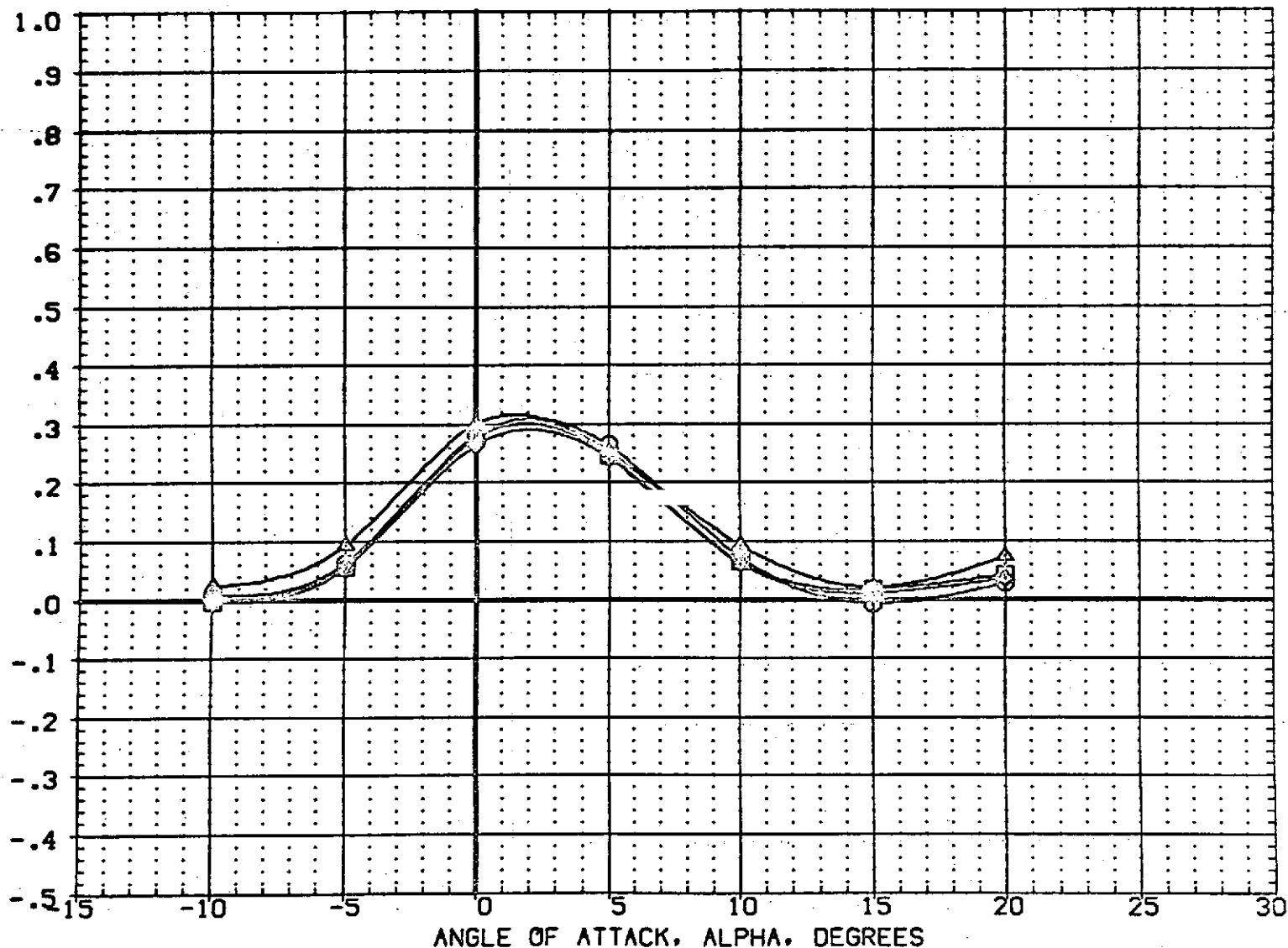


FIG 15 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1031)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	153.000	.000	-15.000	.000	SREF	39.7360	50. IN.
(CH1011)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1033)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	153.000	.000	5.000	.000	BREF	9.3570	INCHES
(CH1037)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	153.000	.000	15.000	.000	YMRP	7.3500	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5540	INCHES
						SCALE	.0100	SCALE

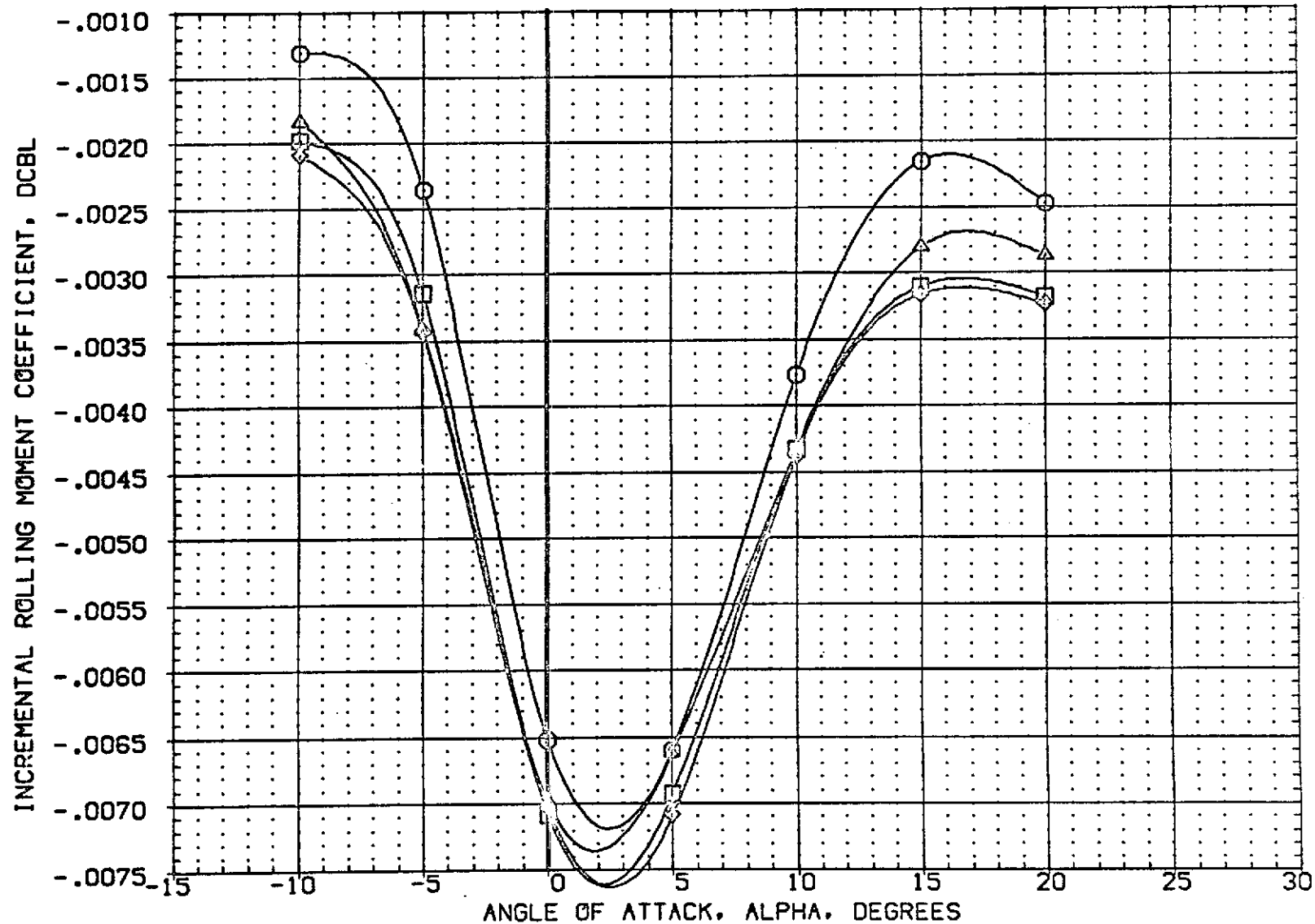


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1031)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	159.000	.000	-15.000	.000	SREF	38.7360	50. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	159.000	.000	.000	.000	LREF	4.7400	INCHES
(CH1033)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	159.000	.000	5.000	.000	BREF	9.3670	INCHES
(CH1037)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	159.000	.000	15.000	.000	XMRP	7.3300	INCHES
						YMRP	.0300	INCHES
						ZMRP	.5860	INCHES
						SCALE	.0100	SCALE

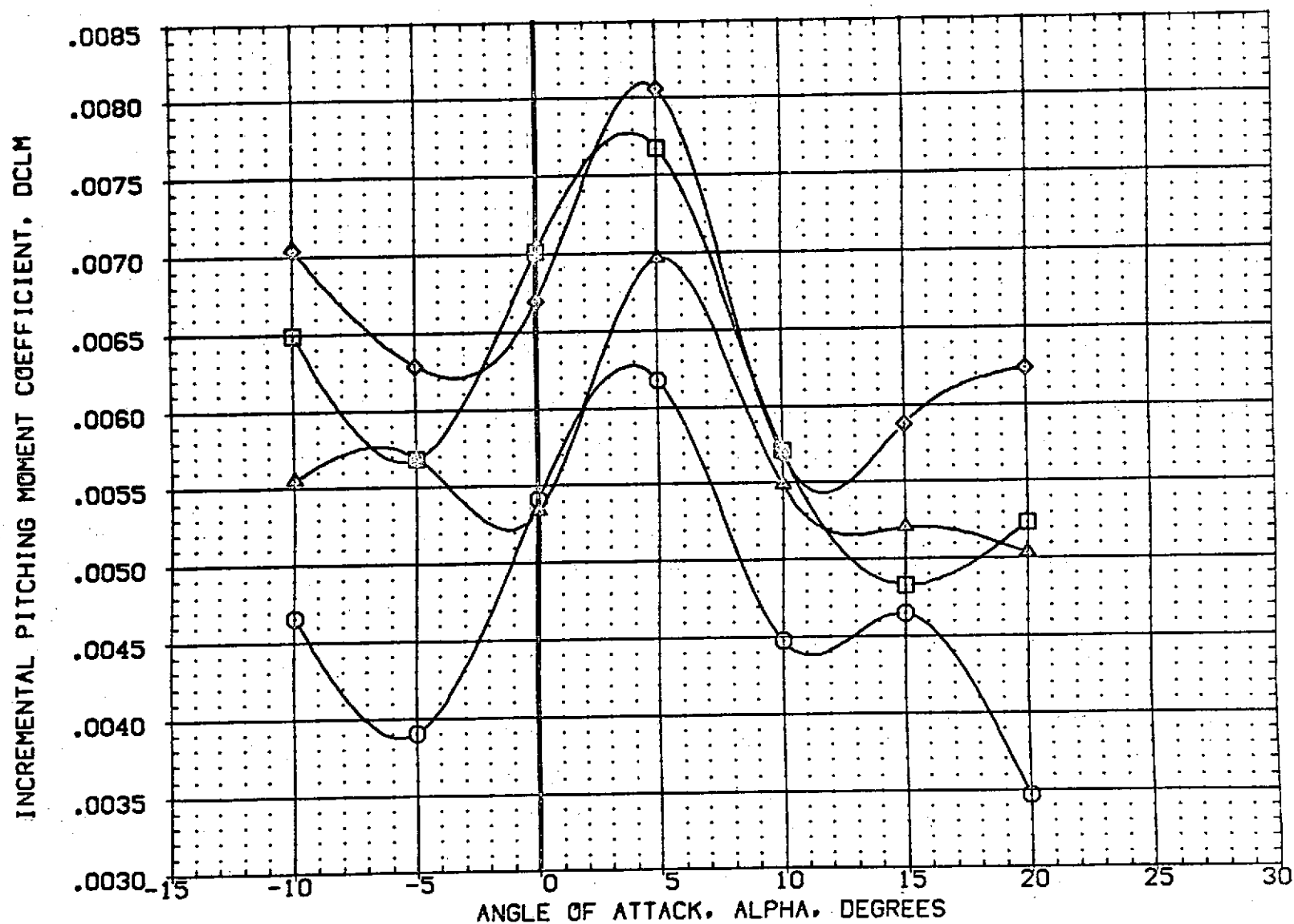


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1031)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	.000	-15.000	.000	SREF	38.7380	50. IN.
(CH1011)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	159.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1033)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	.000	5.000	.000	BREF	9.3570	INCHES
(CH1037)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	XMRP	7.3850	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

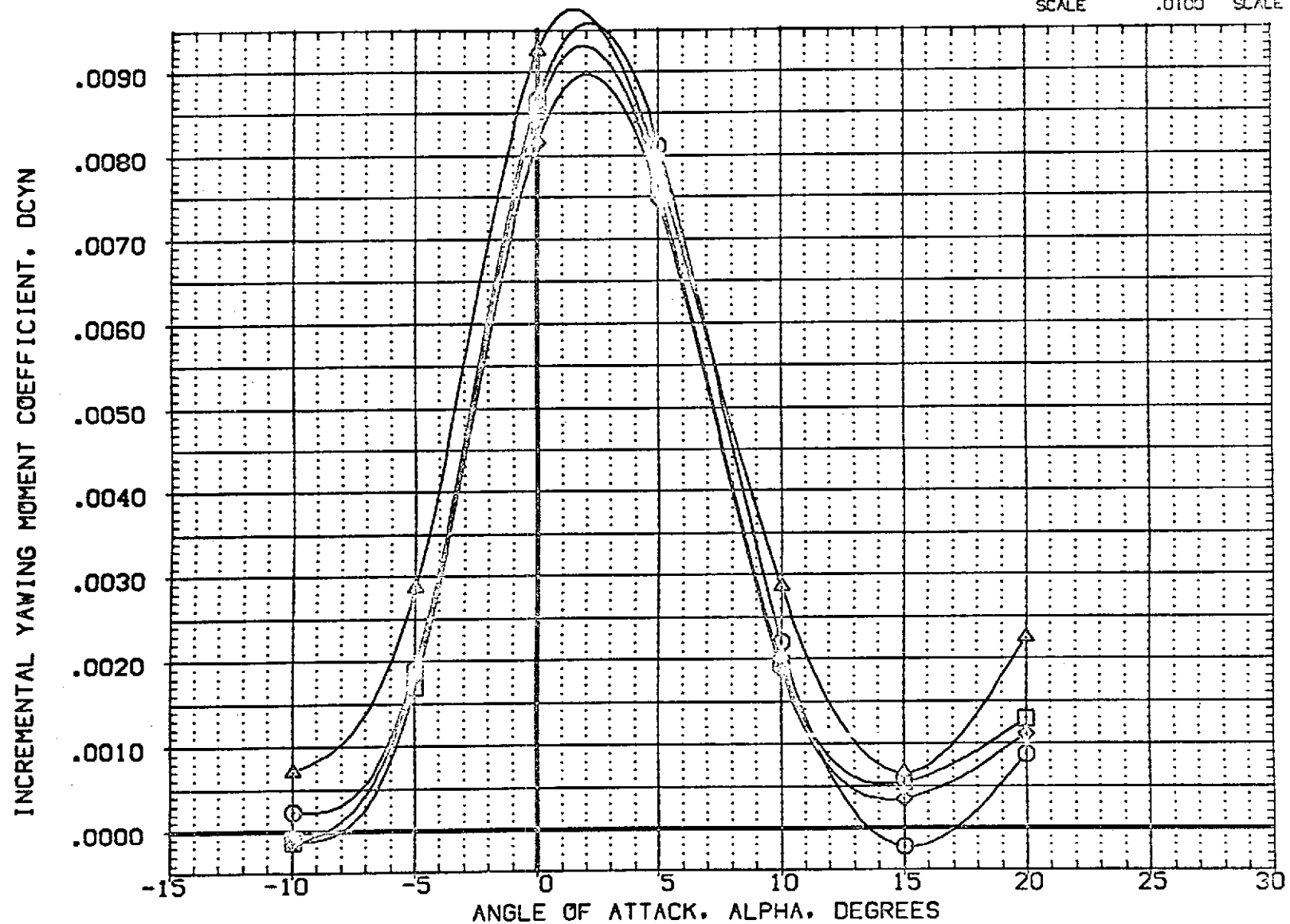


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF

(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(ZH13IN)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	33.7350	SQ. IN.
(RH11IN)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7480	INCHES
(RH105F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	-15.000	.000	BREF	9.3570	INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XMSP	7.3380	INCHES
						YMSP	.0000	INCHES
						ZMSP	.5840	INCHES
						SCALE	.0100	SCALE

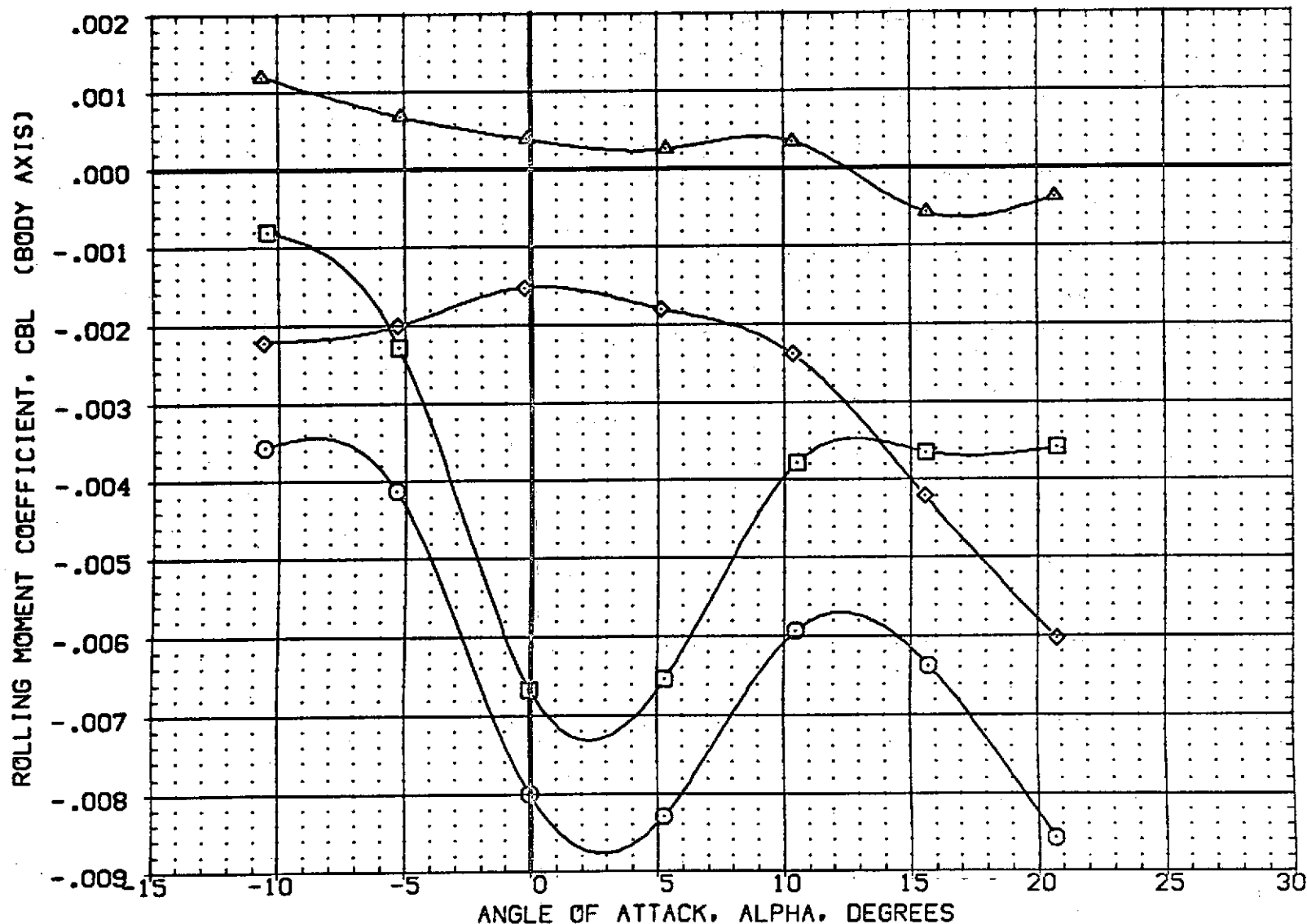


FIG 15 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE	INFORMATION
(Z4131N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	38.7350 SQ. IN.
(Z4111N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 NS2 ROLL	158.000	.000	.000	.000	LREF	4.7400 INCHES
(R4105F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 NS2 RCS OFF	.000	.000	-15.000	.000	BREF	9.3370 INCHES
(R4102F)	IA-60 CFHT108 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	XYRP	7.3000 INCHES
						YWRP	.0000 INCHES
						ZWRP	.0340 INCHES
						SCALE	.0100 SCALE

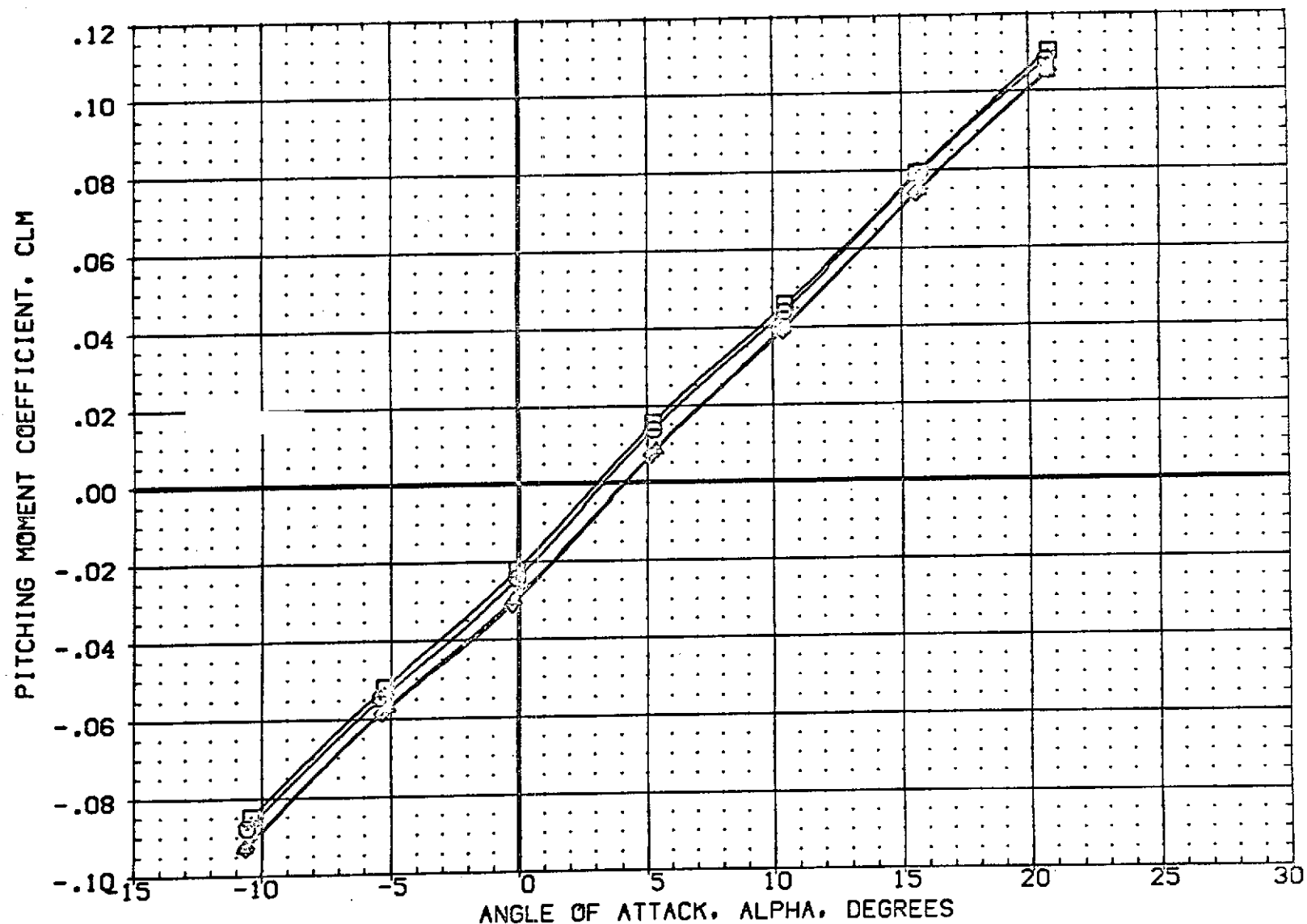


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(ZH131N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	-15.000	.000	SREF	33.7350 SQ. IN.
(RH111N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	LREF	4.7400 INCHES
(RH105F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	-15.000	.000	BREF	9.3670 INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XMRP	7.3200 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

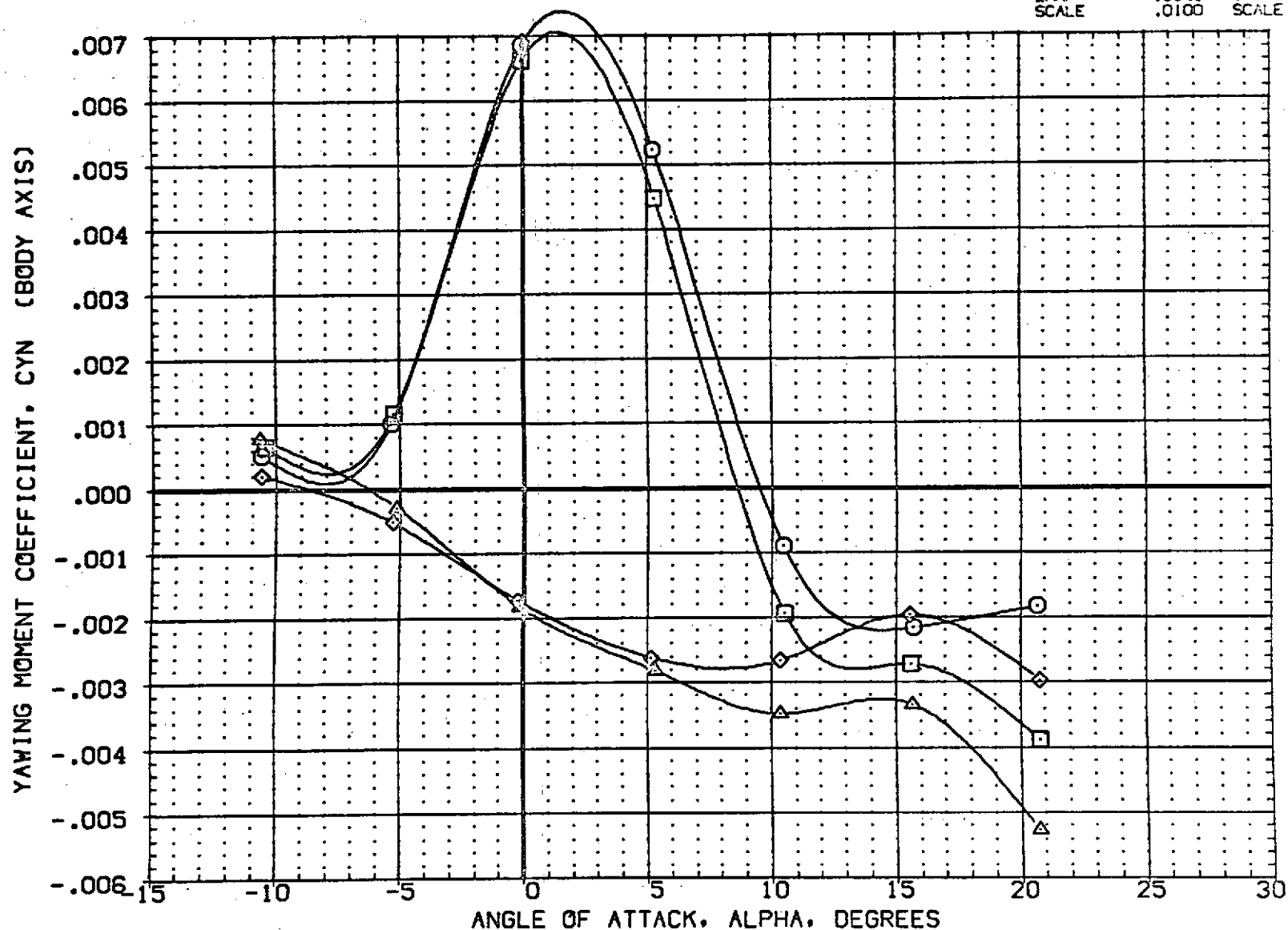


FIG 15. EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION
(ZHI33N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	5.000	.000	SREF 38.7360 SQ. IN.
(RH137N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	LREF 4.7480 INCHES
(RH106F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	BREF 9.3670 INCHES
(RH104F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMSP 7.3590 INCHES
						YMSP .0000 INCHES
						ZMSP .9940 INCHES
						SCALE .0100 SCALE

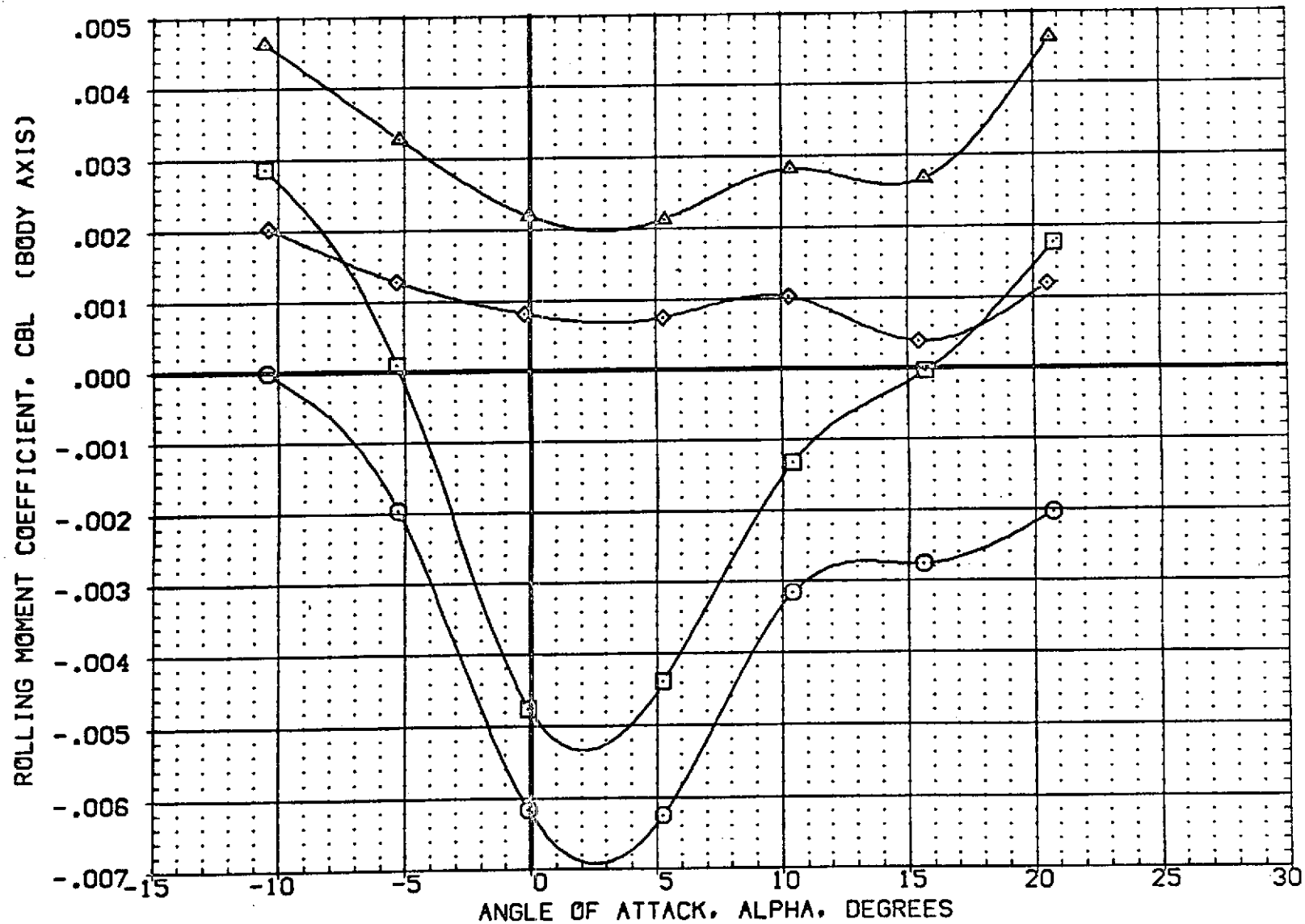


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF

(A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(ZH133N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	5.000	.000	SREF	38.7360	50.1N.
(RH137N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	LREF	4.7460	INCHES
(RH106F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	BREF	9.3570	INCHES
(RH104F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XCRP	7.3660	INCHES
						YCRP	.0000	INCHES
						ZCRP	.9940	INCHES
						SCALE	.0100	SCALE

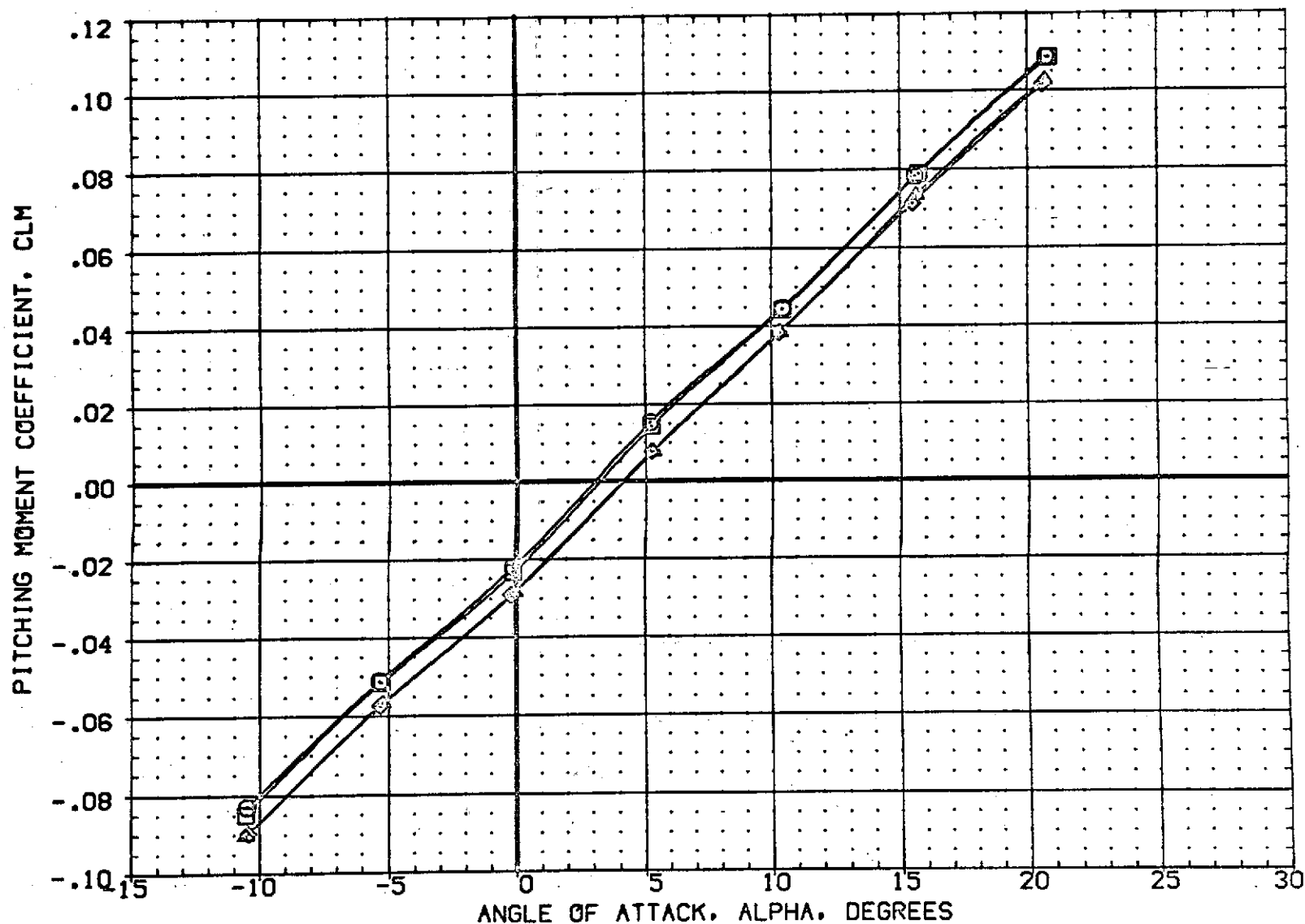


FIG 15 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZHI33N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	5.000	.000	SREF	38.7360	92.1N.
(RH137N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	15.000	.000	LREF	4.7460	INCHES
(RH106F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	5.000	.000	BREF	9.3570	INCHES
(RH104F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	15.000	.000	XMRP	7.3800	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

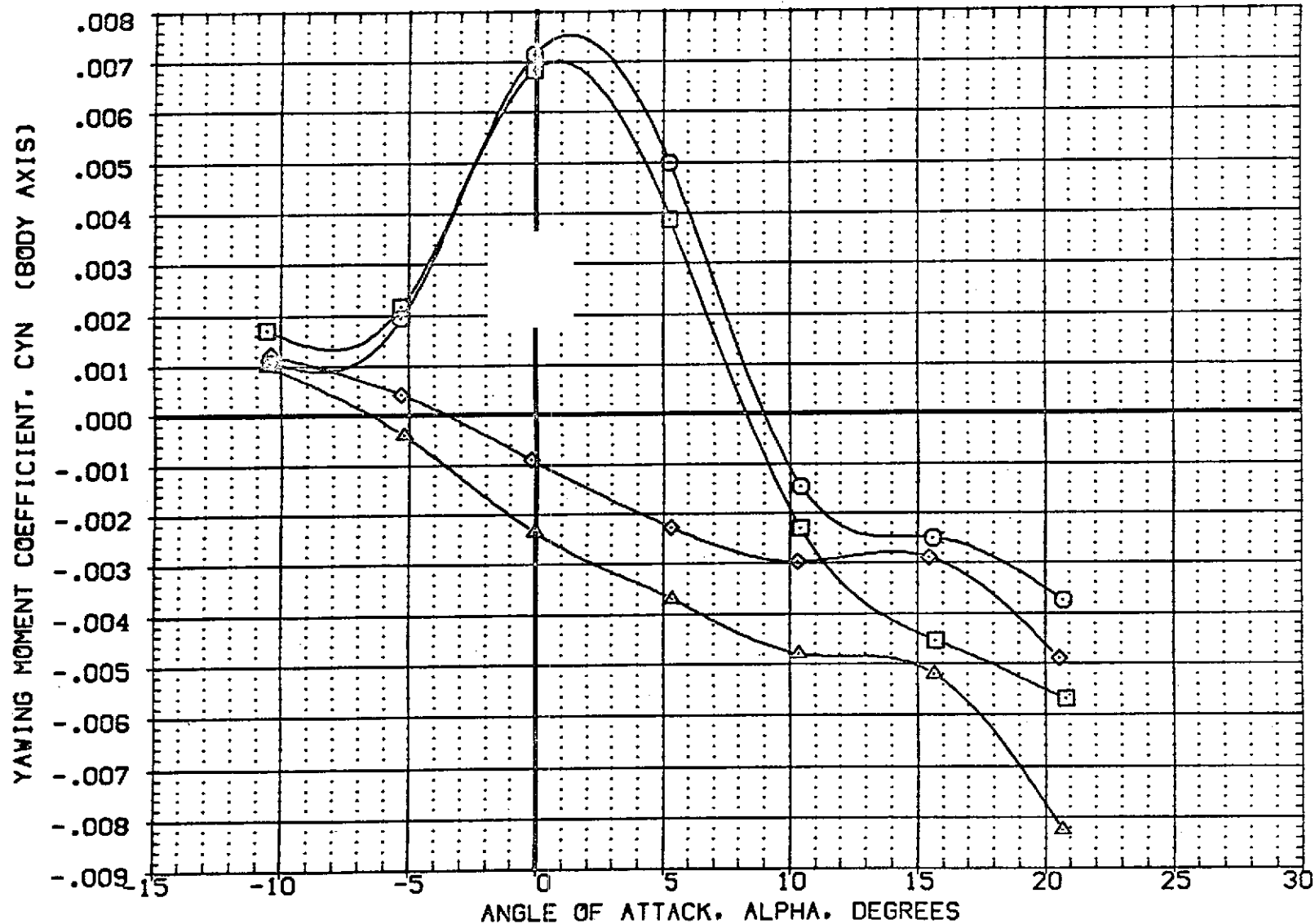


FIG 15 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=0, QSIM = 20 PSF  
 (A) MACH = 10.33

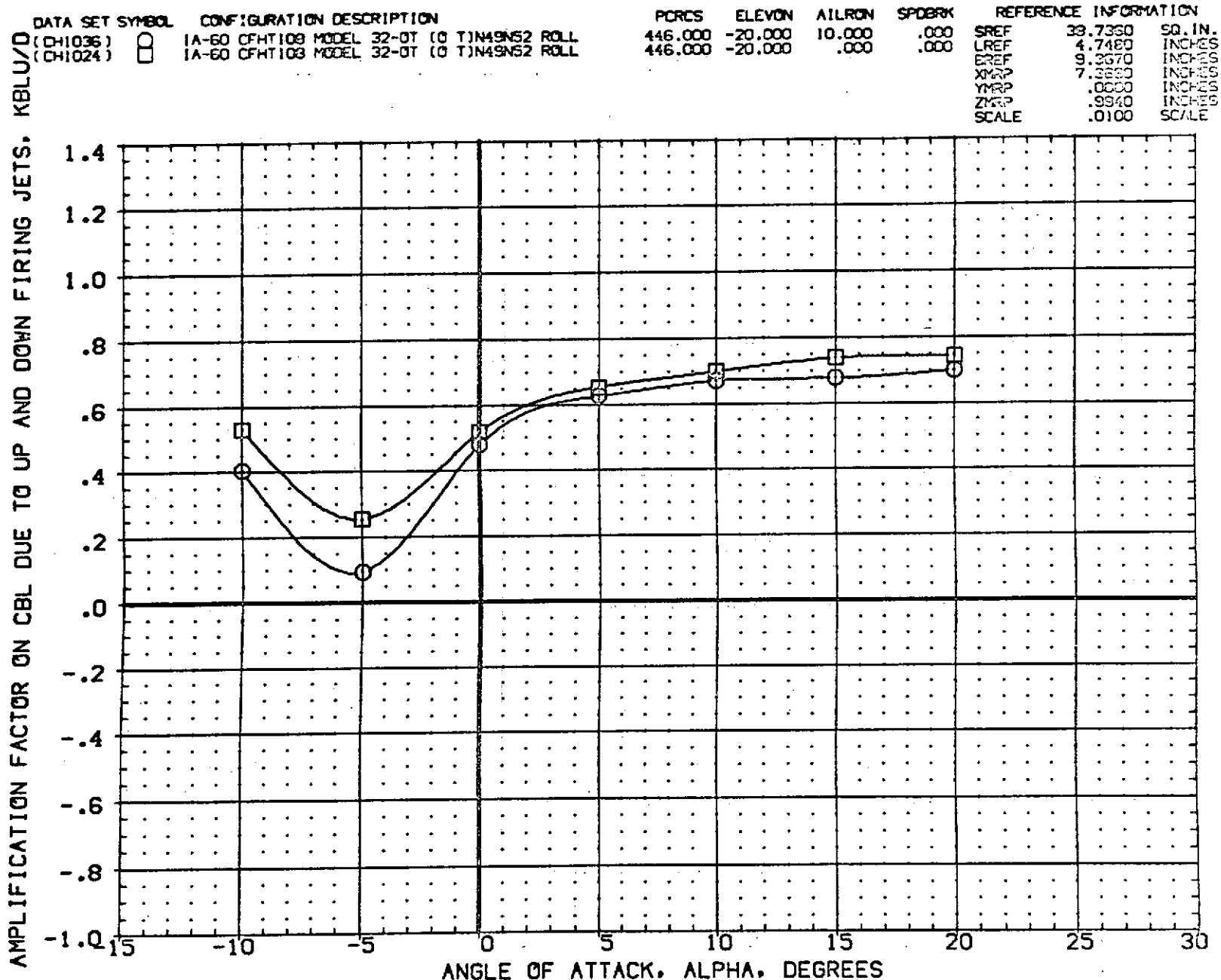


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1036) ○	1A-60 CFHT108 MODEL 32-0T (O T)N49N52 ROLL
(CH1024) □	1A-60 CFHT108 MODEL 32-0T (O T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPOBRK
446.000	-20.000	10.000	.000
446.000	-20.000	.000	.000

REFERENCE INFORMATION	
SREF	33.7360 SQ. IN.
LREF	4.7480 INCHES
BREF	9.3670 INCHES
XMRP	7.3620 INCHES
YMRP	.0000 INCHES
ZMRP	.9940 INCHES
SCALE	.0100 SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS. KM.BL2

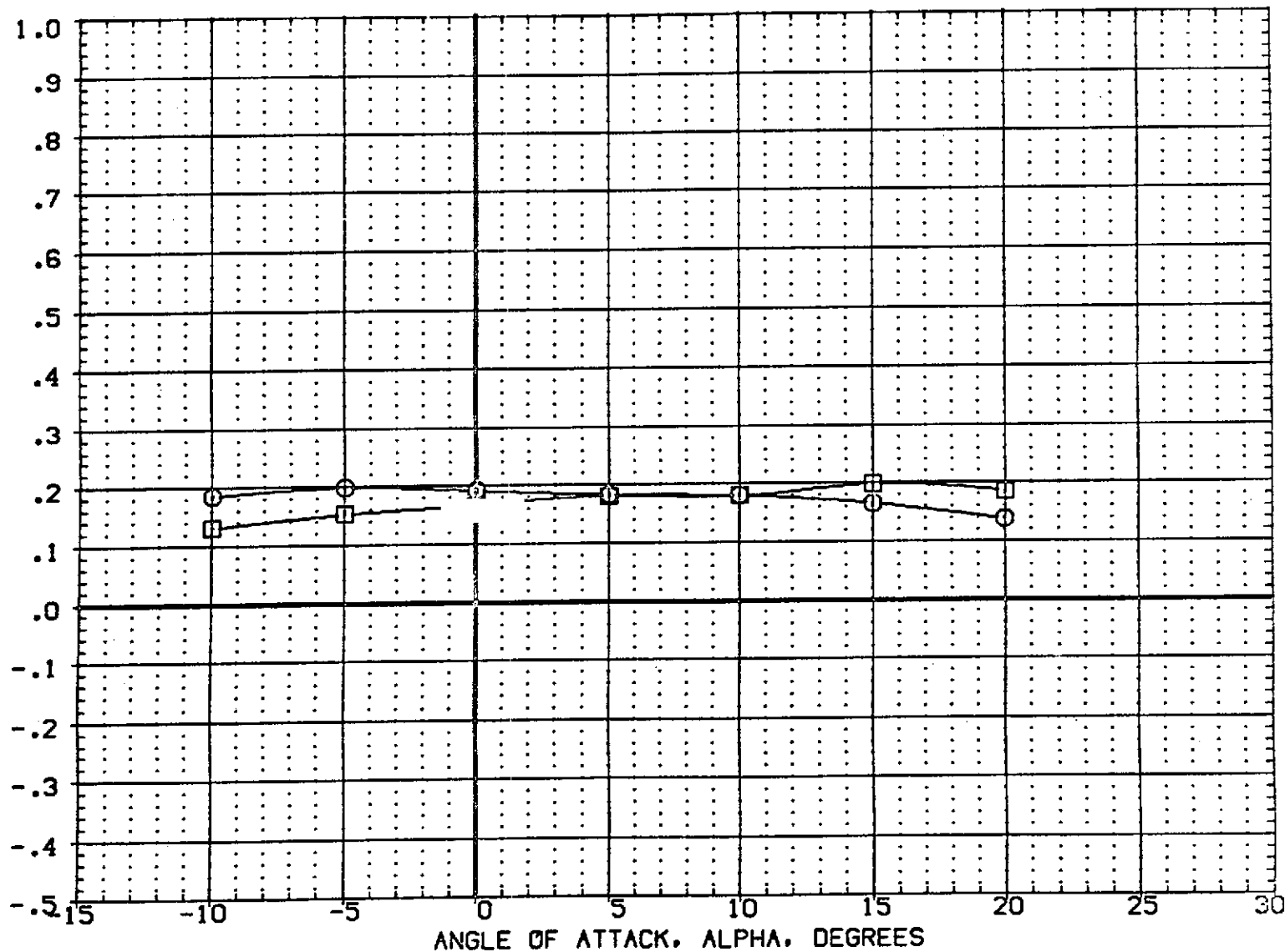


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1036) ○	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL
(CH1024) □	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCPCS	ELEVON	AILRON	SPOBRK
446.000	-20.000	10.000	.000
446.000	-20.000	.000	.000

REFERENCE INFORMATION		
SREF	38.7350	50.1N.
LREF	4.7400	INCHES
BREF	9.3570	INCHES
XGRP	7.3590	INCHES
YGRP	.0000	INCHES
ZGRP	.5940	INCHES
SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS. KYN.L2

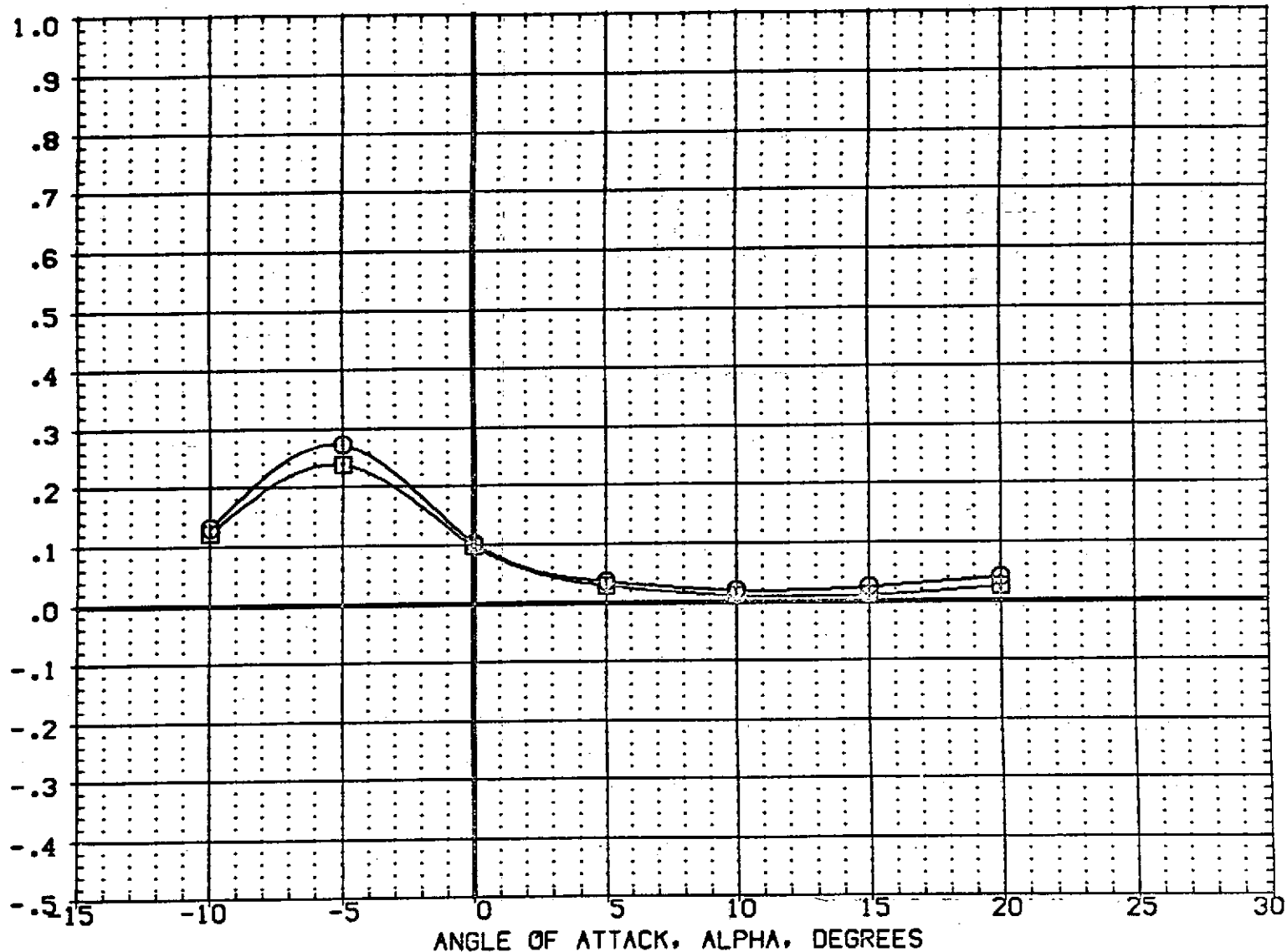


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1036) ○	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL
(CH1024) □	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCPCS	ELEVON	AILRON	SPDBRK
446.000	-20.000	10.000	.000
446.000	-20.000	.000	.000

REFERENCE INFORMATION		
SREF	38.7230	SQ. IN.
LREF	4.7460	INCHES
BREF	9.3570	INCHES
XMRP	7.3600	INCHES
YMRP	.0000	INCHES
ZMRP	.9340	INCHES
SCALE	.0100	SCALE

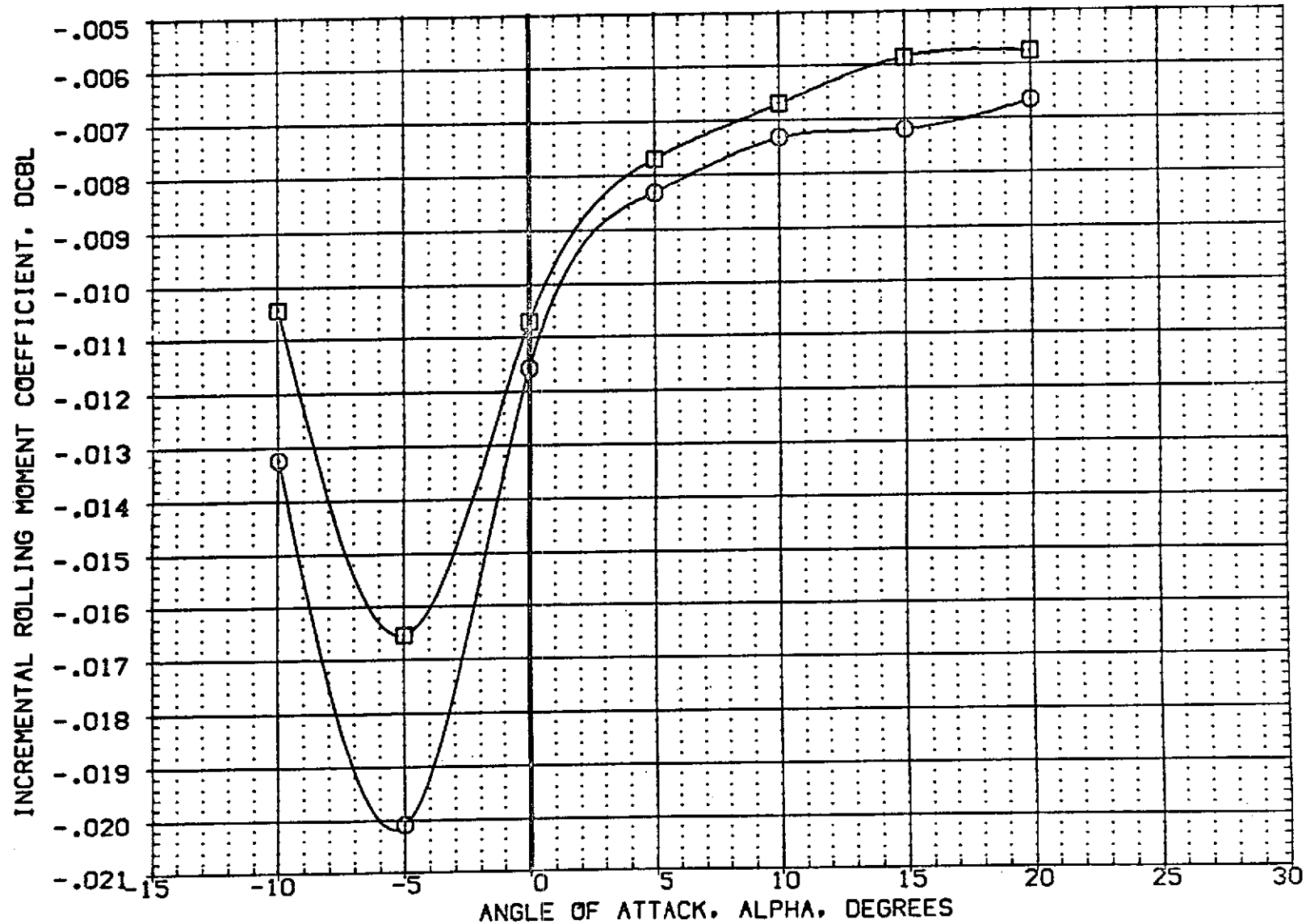


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1036) ○	1A-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL
(CH1024) □	1A-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPDBRK
446.000	-20.000	10.000	.000
446.000	-20.000	.000	.000

REFERENCE INFORMATION		
SREF	33.7360	SQ. IN.
LREF	4.7430	INCHES
BREF	9.3570	INCHES
XMRP	7.3300	INCHES
YMRP	.0000	INCHES
ZMRP	.9940	INCHES
SCALE	.0100	SCALE

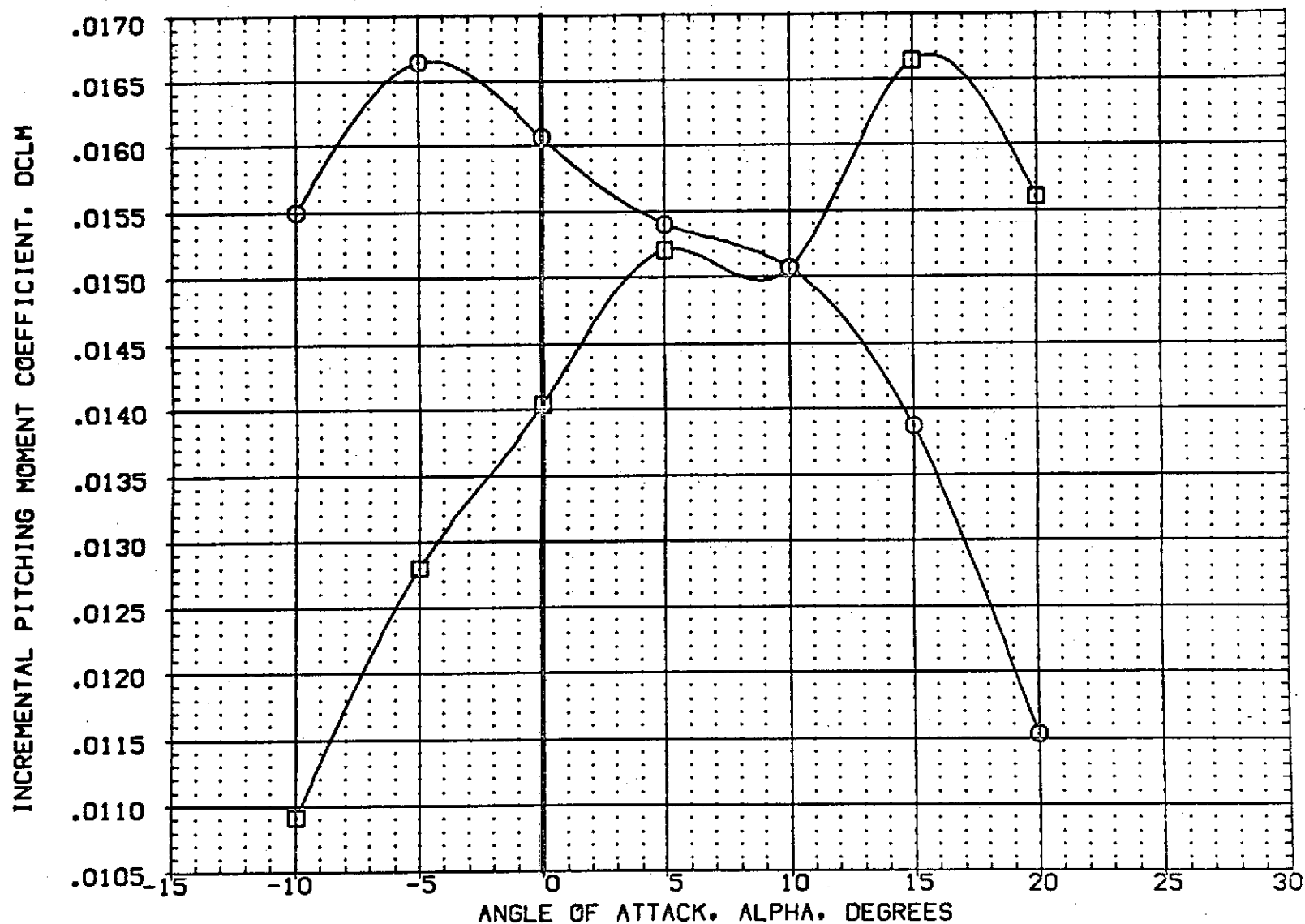


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1036) ○	1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL
(CH1024) □	1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPOBRK
446.000	-20.000	10.000	.000
446.000	-20.000	.000	.000

REFERENCE INFORMATION		
SREF	39.7360	SQ. IN.
LREF	4.7480	INCHES
BREF	9.2570	INCHES
XMRP	7.2560	INCHES
YMRP	.0000	INCHES
ZMRP	.5960	INCHES
SCALE	.0100	SCALE

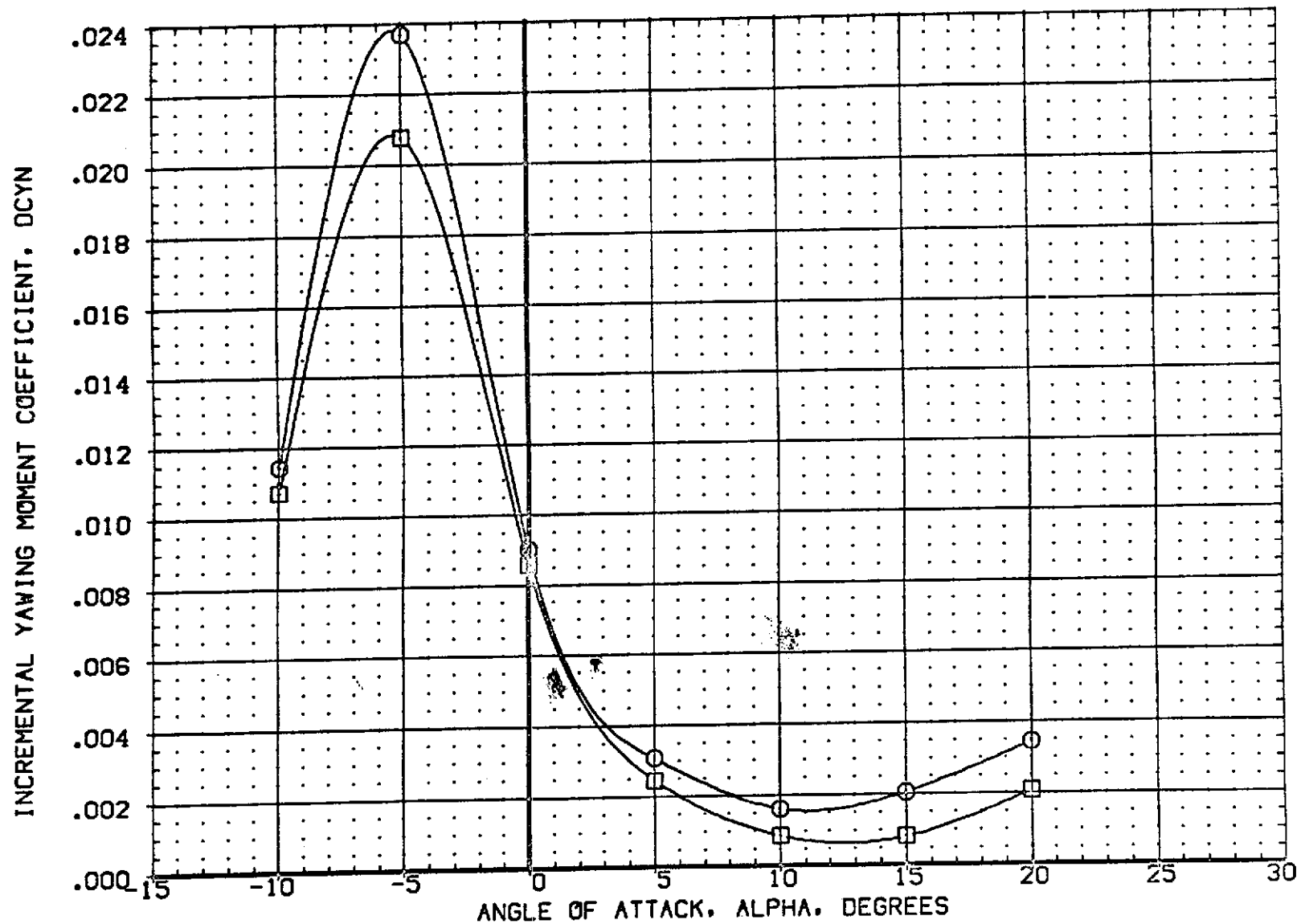


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(Z4136N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	10.000	.000	SREF	33.7360	SQ. IN.
(R4124N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	LREF	4.7460	INCHES
(R4107F)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF	9.3670	INCHES
(R4103F)	1A-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3630	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5940	INCHES
						SCALE	.0100	SCALE

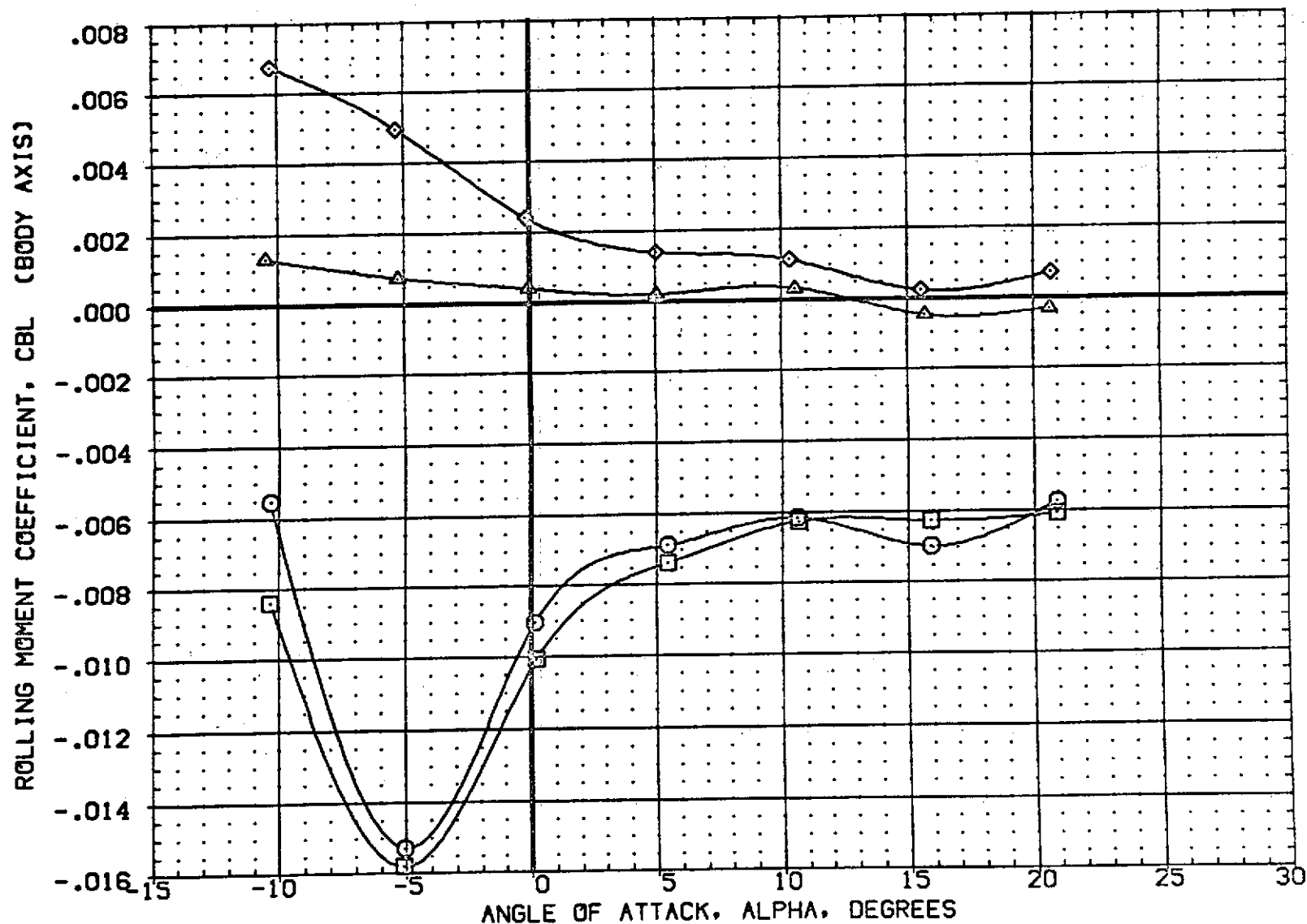


FIG 16 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A) MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION
(ZH136N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	10.000	.000	SREF 39.7350 SQ. IN.
(RH124N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	LREF 4.7400 INCHES
(RH107F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF 9.3670 INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP 7.3680 INCHES
						YMRP .0000 INCHES
						ZMRP .9810 INCHES
						SCALE .0100 SCALE

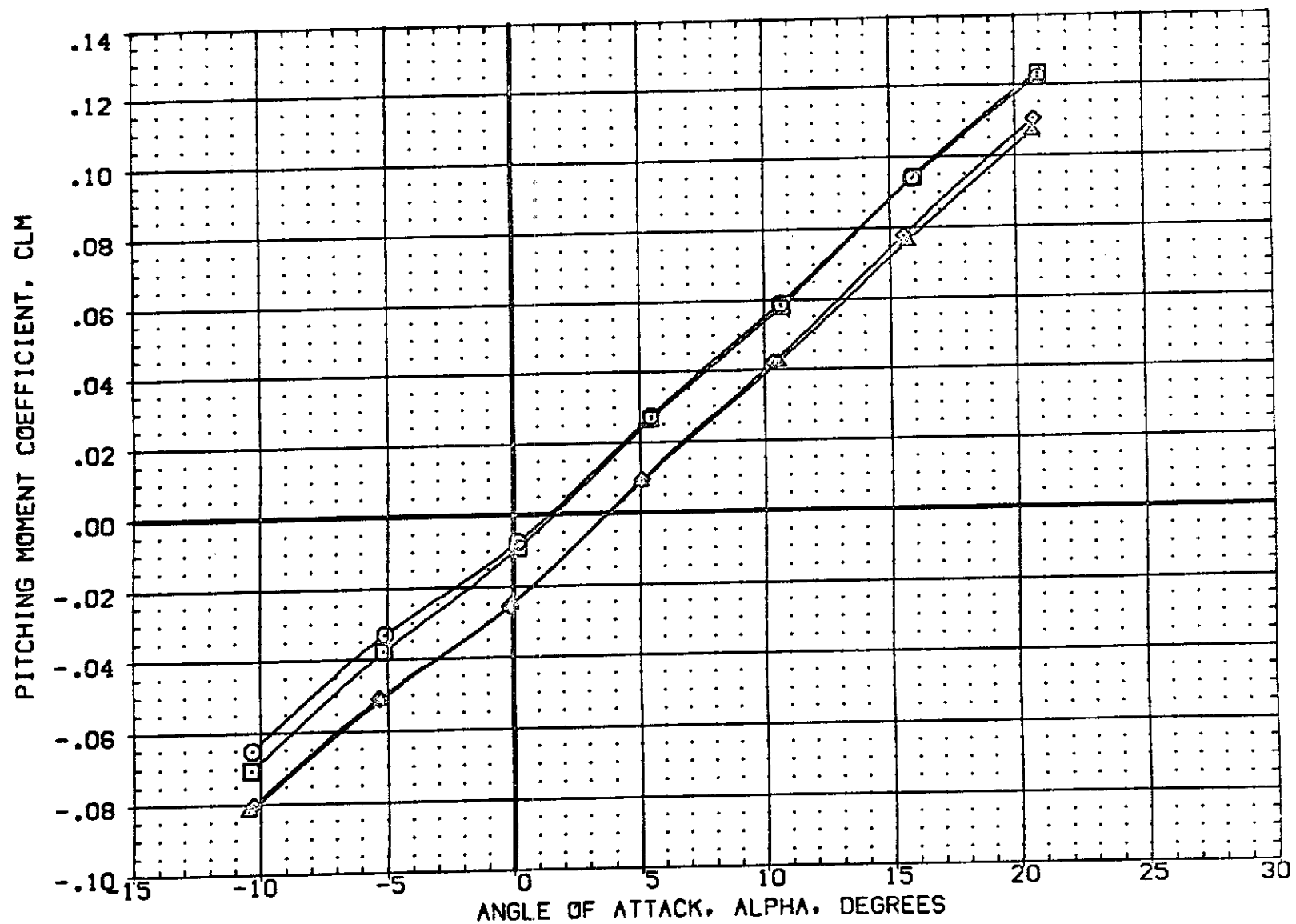


FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZH136N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	-20.000	10.000	.000	SREF	39.7350	50. IN.
(RH124N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	-20.000	.000	.000	LREF	4.7480	INCHES
(RH107F)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-OT (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3380	INCHES
						YMRP	.0090	INCHES
						ZMRP	.5540	INCHES
						SCALE	.0100	SCALE

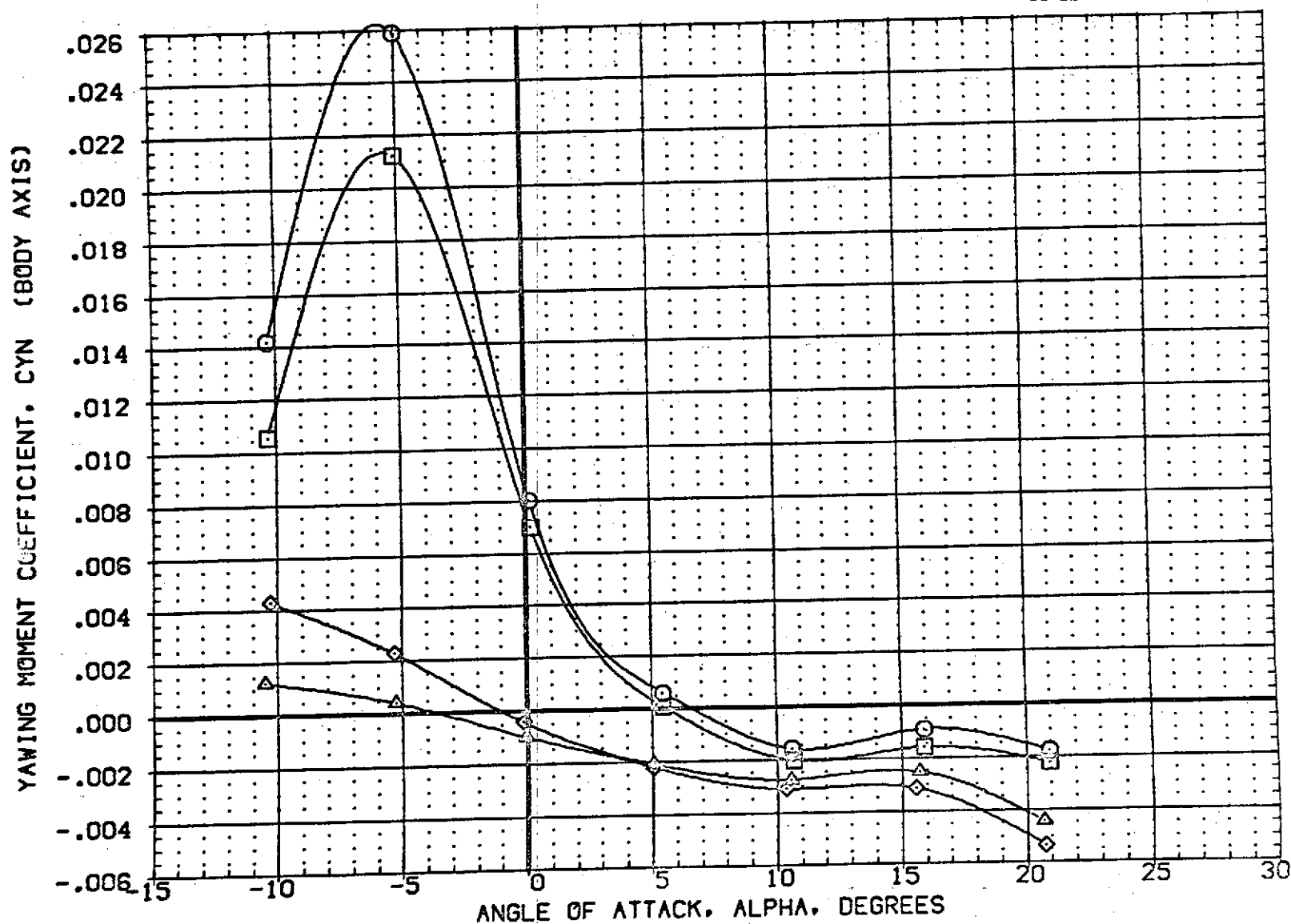




FIG 16 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 7 PSF  
 (A)MACH = 10.33



FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (CH1035)  1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL  
 (CH1023)  1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCRC5 ELEVON AILRON SPOBRK  
 158.000 -20.000 10.000 .000  
 158.000 -20.000 .000

REFERENCE INFORMATION  
 SREF 33.7350 SQ. IN.  
 LREF 4.7480 INCHES  
 EREF 9.3570 INCHES  
 XMRP 7.3500 INCHES  
 YMRP .0500 INCHES  
 ZMRP .6310 INCHES  
 SCALE .0100 SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS, KM,BL2

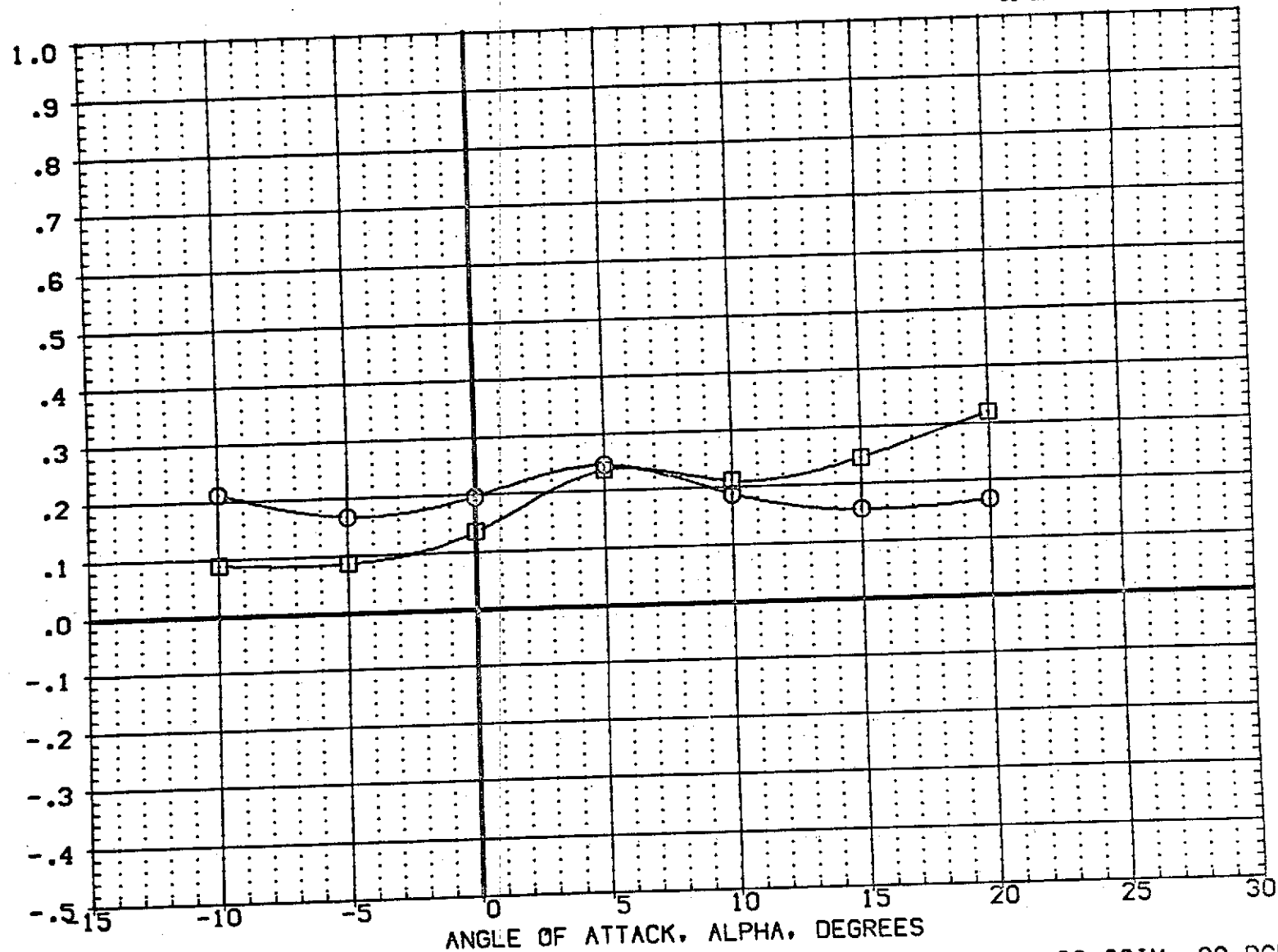


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1035)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL
(CH1023)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPDBRK
158.000	-20.000	10.000	.000
158.000	-20.000	.000	.000

REFERENCE INFORMATION	
SREF	39.7330 SQ. IN.
LREF	4.7460 INCHES
BREF	9.3670 INCHES
XMRP	7.3330 INCHES
YMRP	.0000 INCHES
ZMRP	.5310 INCHES
SCALE	.0100 SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS. KYN.L2

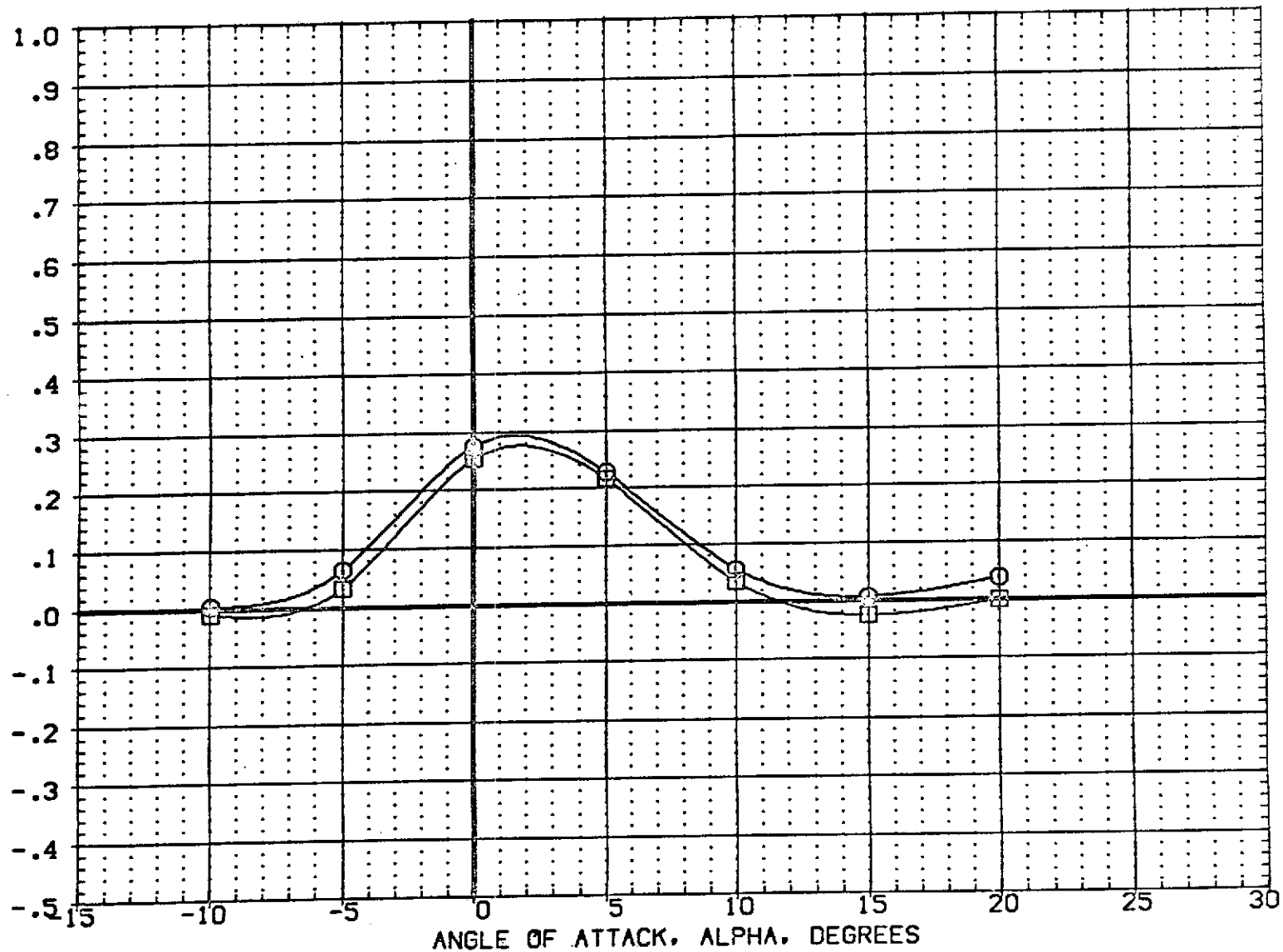


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1035) $\square$	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL
(CH1023) $\circ$	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPDBRK
158.000	-20.000	10.000	.000
158.000	-20.000	.000	.000

REFERENCE INFORMATION		
SREF	39.7350	SO. IN.
LREF	4.7480	INCHES
BREF	9.3570	INCHES
XGRP	7.3890	INCHES
YGRP	.0000	INCHES
ZGRP	.9840	INCHES
SCALE	.0100	SCALE

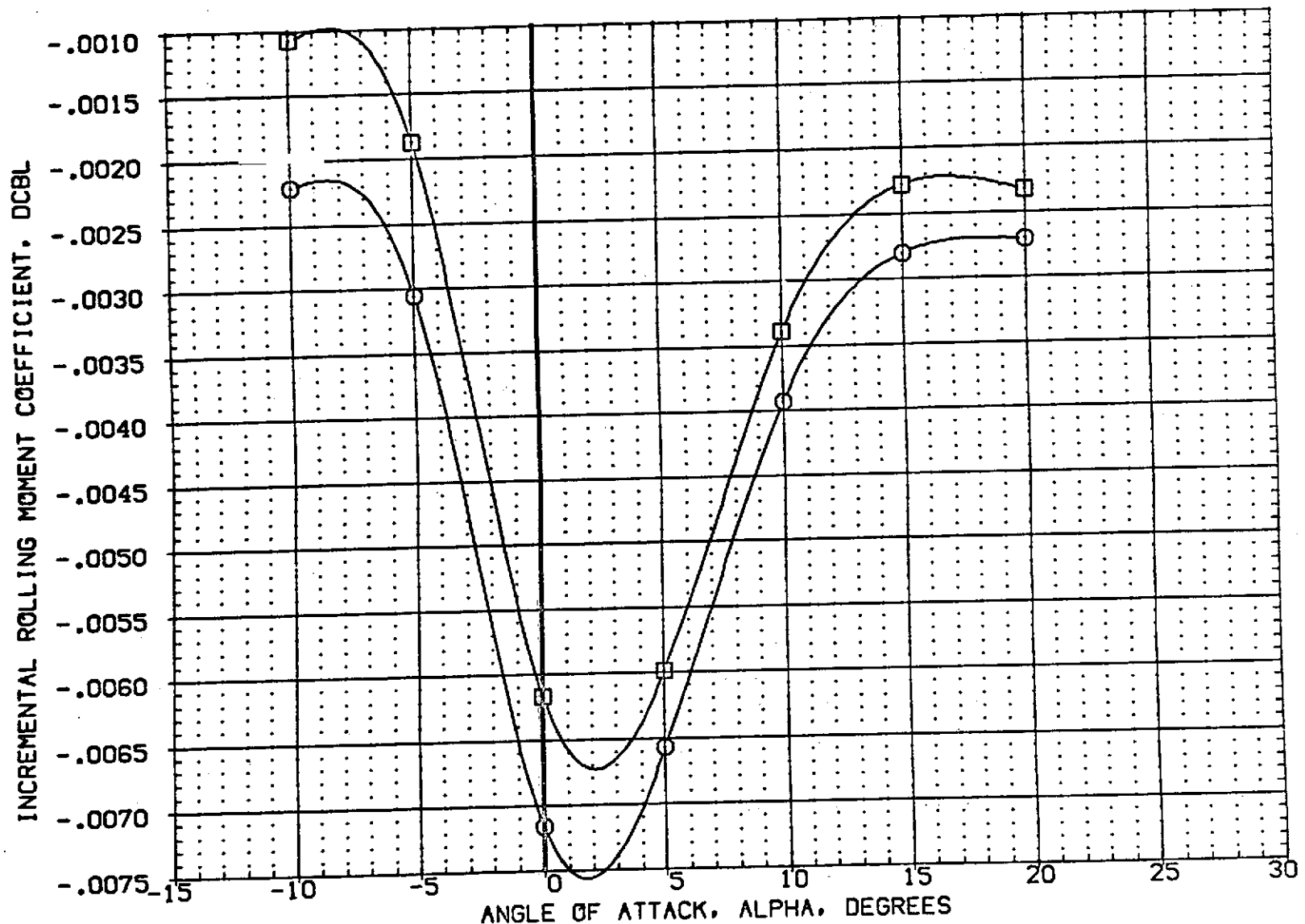


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1035)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL
(CH1023)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPOBRK
159.000	-20.000	10.000	.000
159.000	-20.000	.000	.000

REFERENCE INFORMATION	
SREF	30.7350 SQ. IN.
LREF	4.7480 INCHES
BREF	9.3570 INCHES
XMRP	7.3500 INCHES
YMRP	.0000 INCHES
ZMRP	.9940 INCHES
SCALE	.0100 SCALE

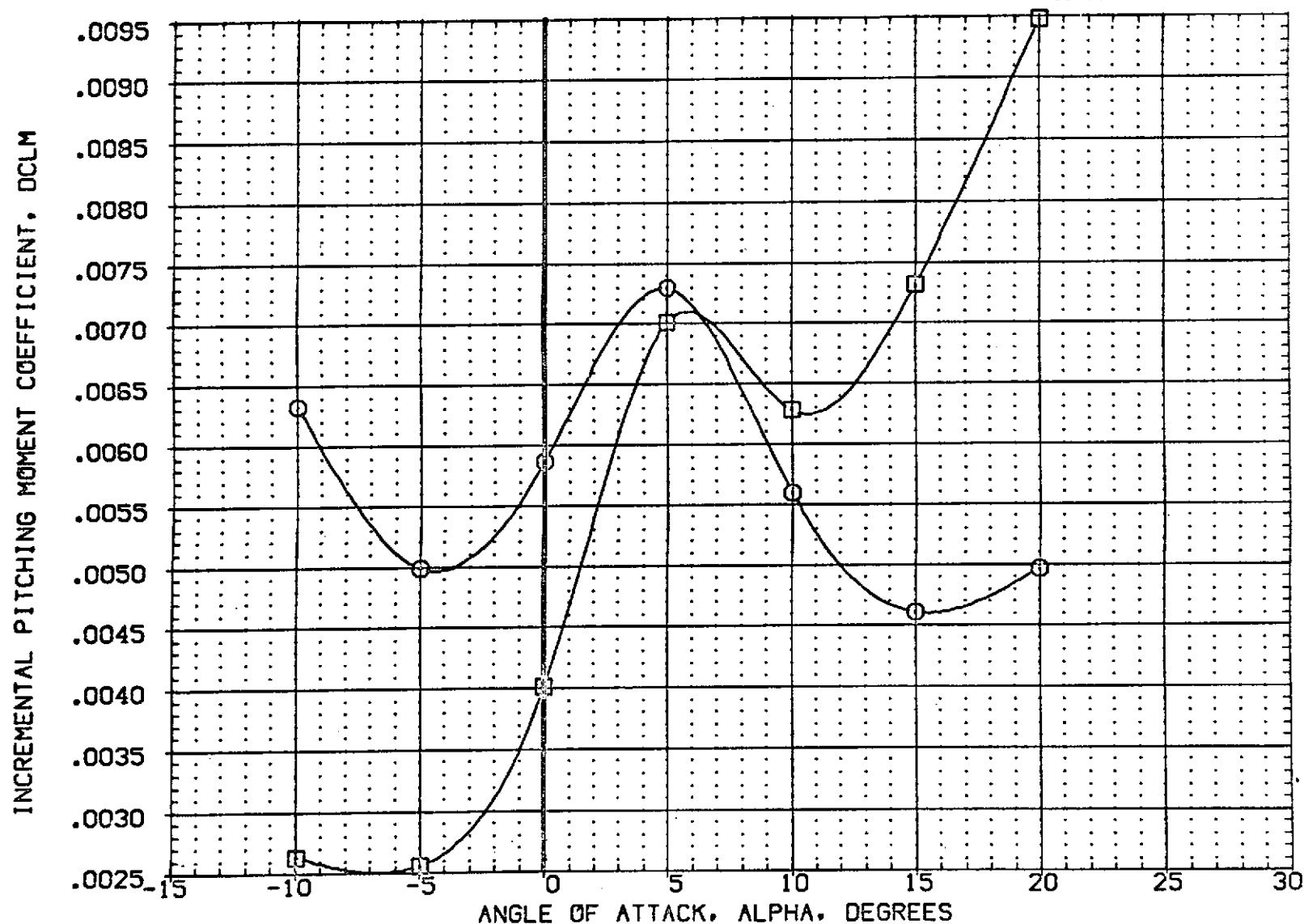


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1035)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	10.000	.000	SREF	39.7330 SQ. IN.
(CH1023)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	153.000	-20.000	.000	.000	LREF	4.7480 INCHES
						BREF	9.2670 INCHES
						XMRP	7.5500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

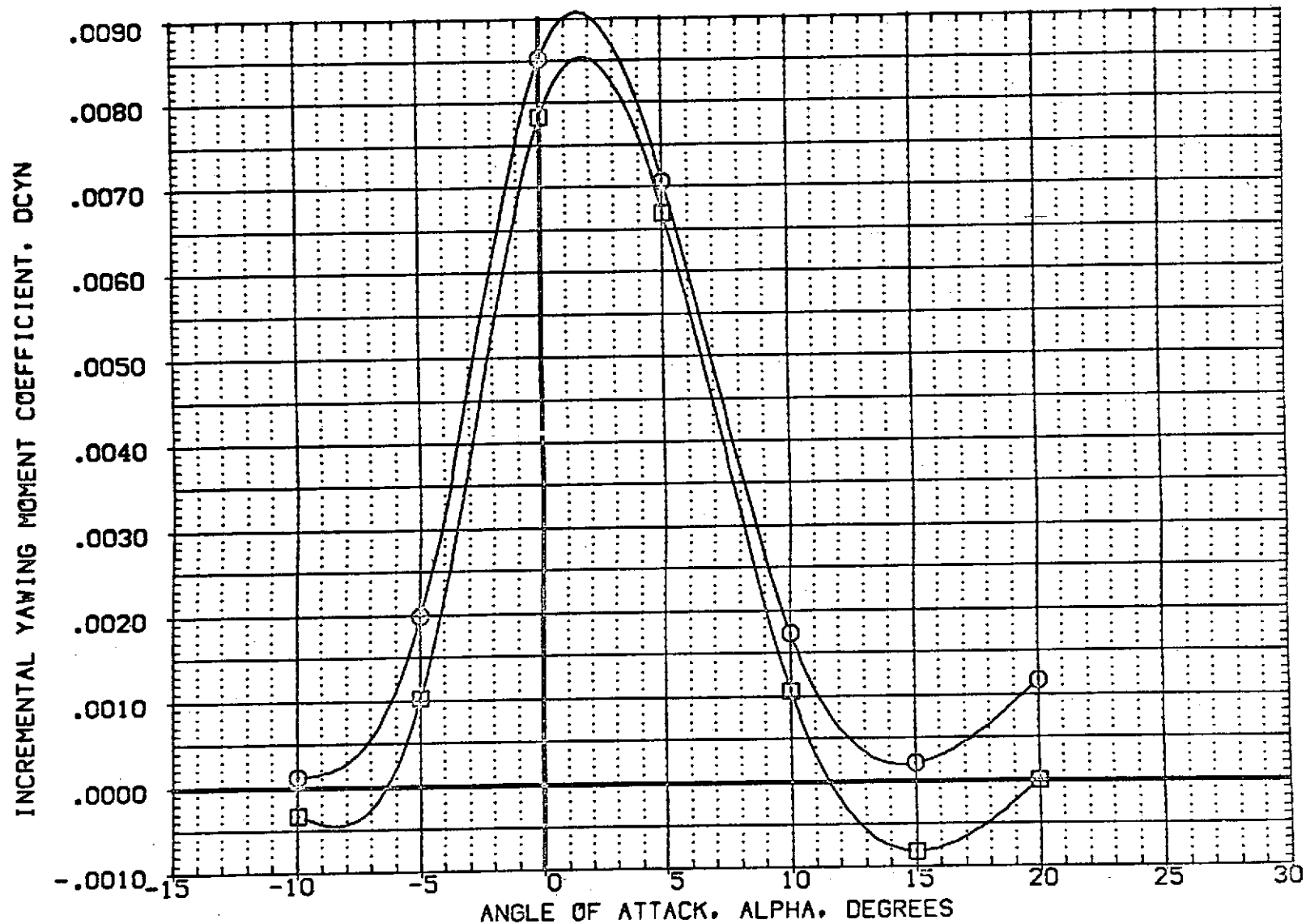


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION
(ZH135N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	159.000	-20.000	10.000	.000	SREF 33.7230 SQ. IN.
(RH123N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	159.000	-20.000	.000	.000	LREF 4.7420 INCHES
(RH107F)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF 9.3670 INCHES
(RH103F)	1A-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XMRP 7.3600 INCHES
						YMRP .0000 INCHES
						ZMRP .9940 INCHES
						SCALE .0100 SCALE

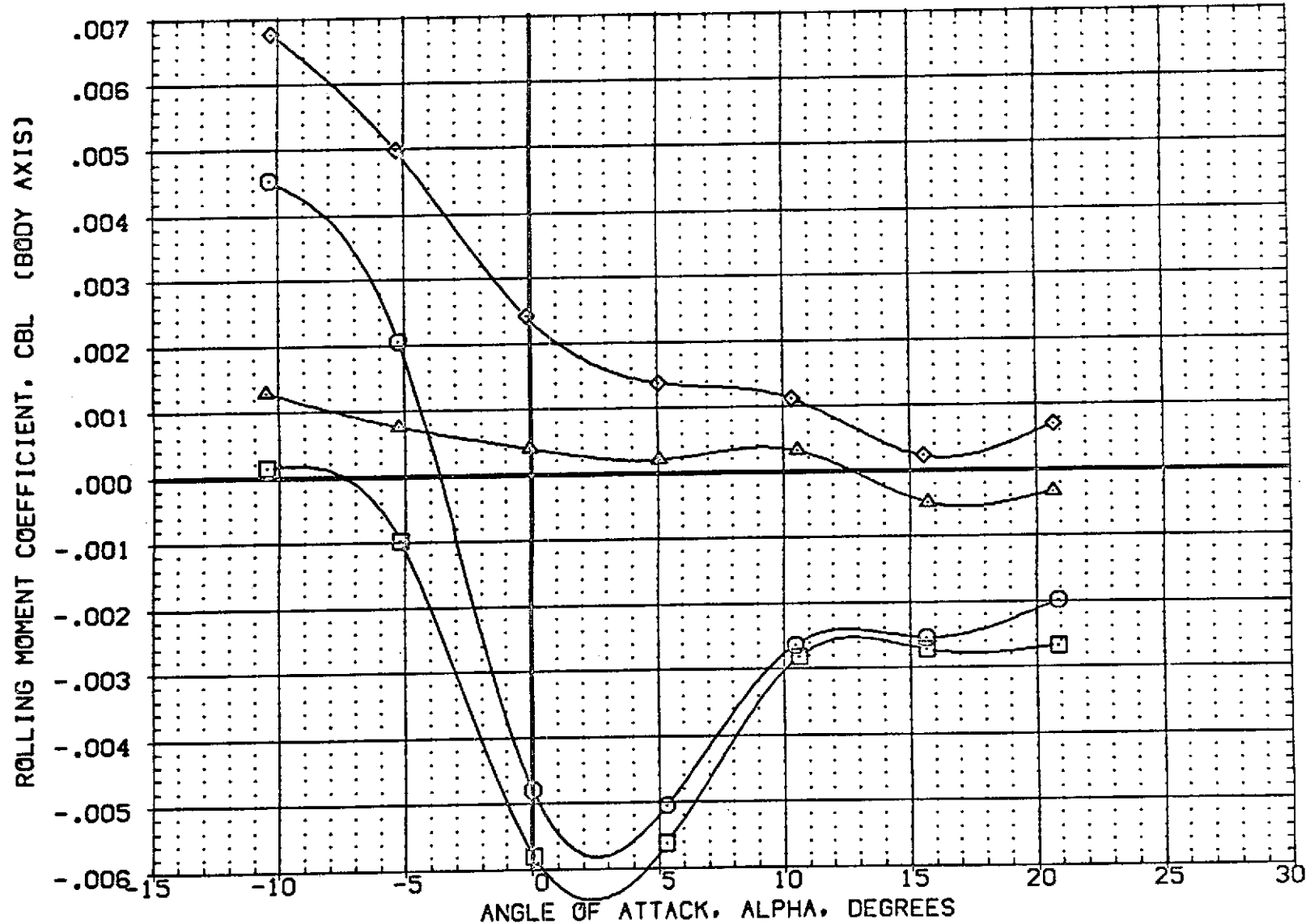


FIG 17 EFFECT OF AILERON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(ZH135N)	IA-60 CFHT108 MODEL 32-0T (0 TIM49N52 ROLL	159.000	-20.000	10.000	.000	SREF	39.7360	50. IN.
(RH123N)	IA-60 CFHT108 MODEL 32-0T (0 TIM49N52 ROLL	153.000	-20.000	.000	.000	LREF	4.7460	INCHES
(RH107F)	IA-60 CFHT108 MODEL 32-0T (0 TIM49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-0T (0 TIM49 N51 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3590	INCHES
						YMRP	.0090	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

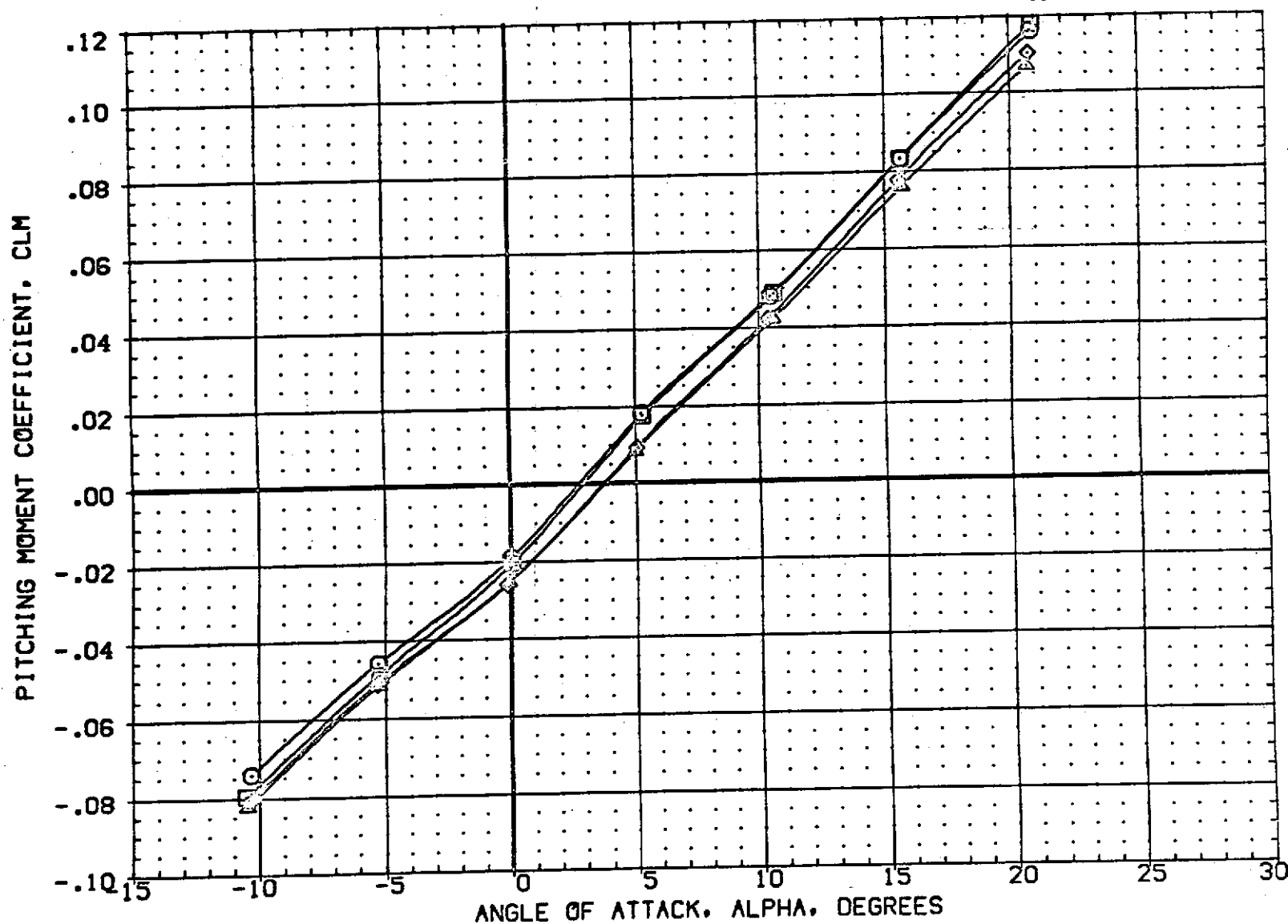


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(ZM135N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	-20.000	10.000	.000	SREF	39.7360 SQ. IN.
(RM123N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	159.000	-20.000	.000	.000	LREF	4.7400 INCHES
(RM107F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	-20.000	10.000	.000	BREF	9.5570 INCHES
(RM103F)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XXRP	7.5700 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

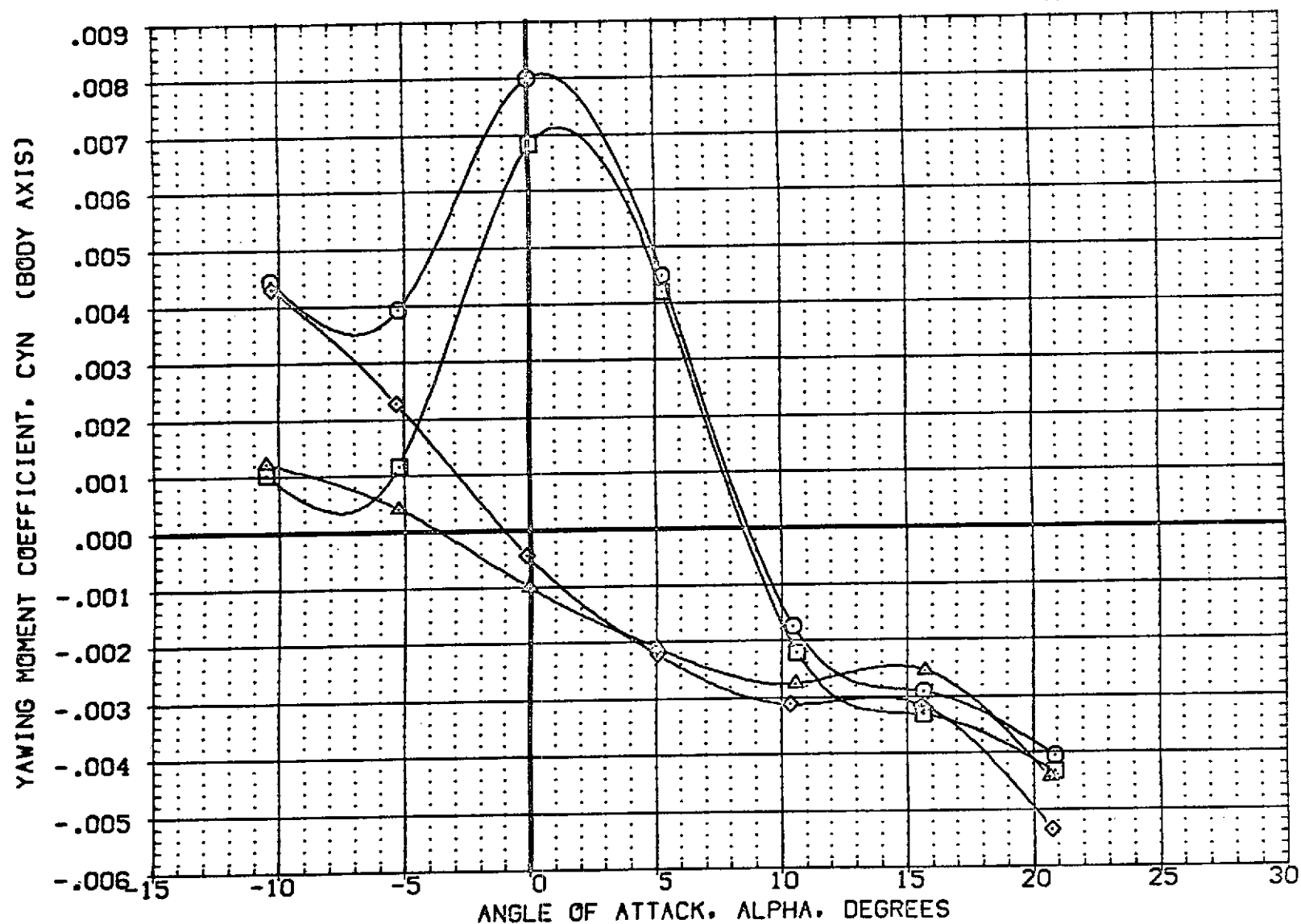


FIG 17 EFFECT OF AILRON DEFL. ON N49N52 JET INTERACTION, ELEVON=-20, QSIM= 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1012)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1028)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	.000	55.000	LREF	4.7480 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3590 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9910 INCHES
						SCALE	.0100 SCALE

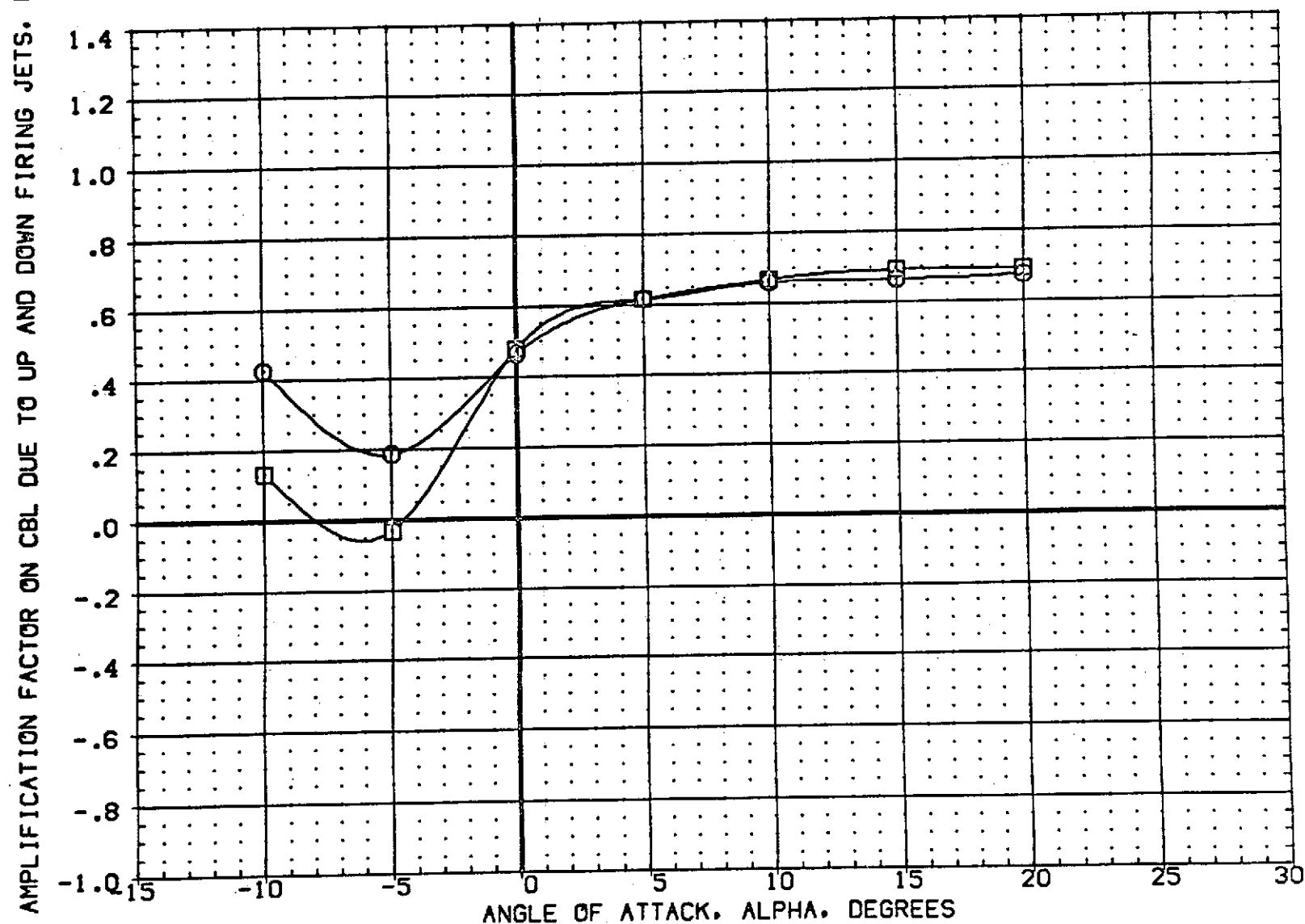


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1012) ○	1A-60 CFHT103 MODEL 32-0T (O T)N49 N52 ROLL
(CH1028) □	1A-60 CFHT103 MODEL 32-0T (O T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPDBRK
445.000	.000	.000	.000
446.000	.000	.000	55.000

REFERENCE INFORMATION	
SREF	33.7360 SQ. IN.
LREF	4.7480 INCHES
BREF	9.2670 INCHES
XMRP	7.3600 INCHES
YMRP	.0000 INCHES
ZMRP	.5940 INCHES
SCALE	.0100 SC/LE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS. KM.BL2

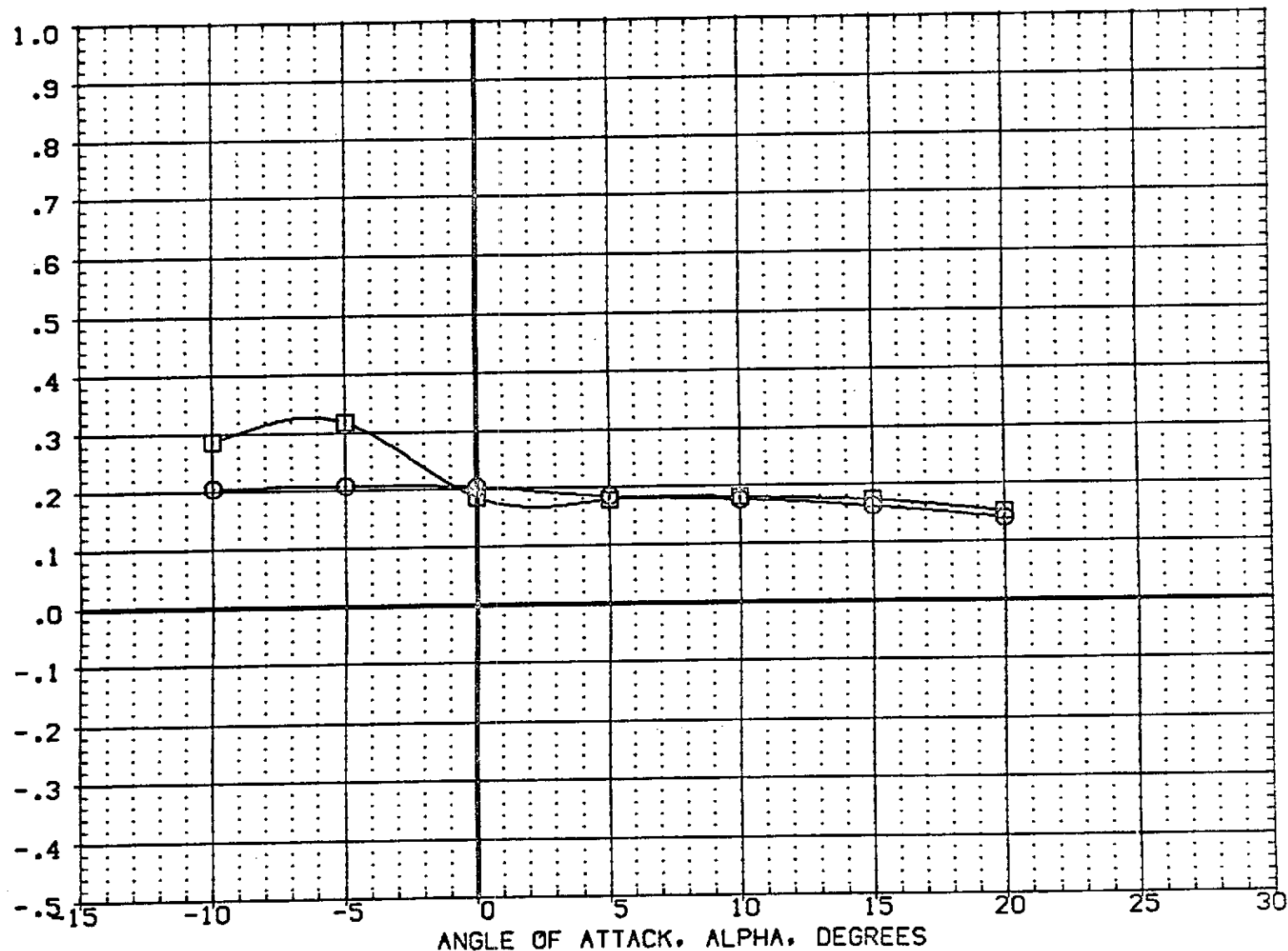


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1012)	1A-60 CFHT103 MODEL 32-0T (0 TJN49 N52 ROLL	446.000	.000	.000	.000	SREF	33.7360 SQ. IN.
(CH1028)	1A-60 CFHT103 MODEL 32-0T (0 TJN49N52 ROLL	446.000	.000	.000	55.000	LREF	4.7460 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3660 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS. KYN.L2

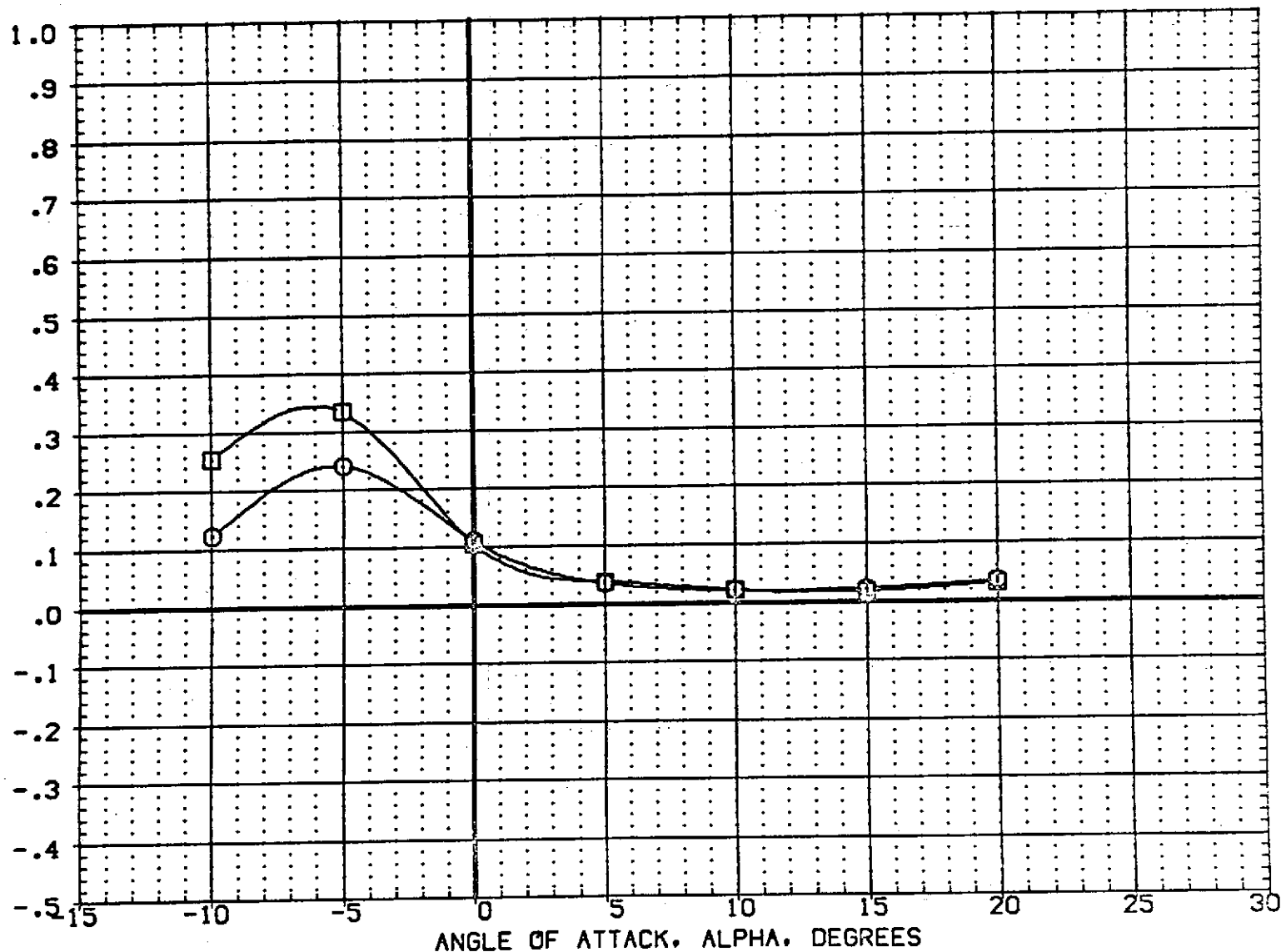


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

C-3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1012)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL
(CH1028)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL

PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
446.000	.000	.000	.000	SREF	39.7360 SQ. IN.
446.000	.000	.000	55.000	LREF	4.7400 INCHES
				BREF	9.3670 INCHES
				XMRP	7.3300 INCHES
				YMRP	.0000 INCHES
				ZMRP	.9840 INCHES
				SCALE	.0100 SCALE

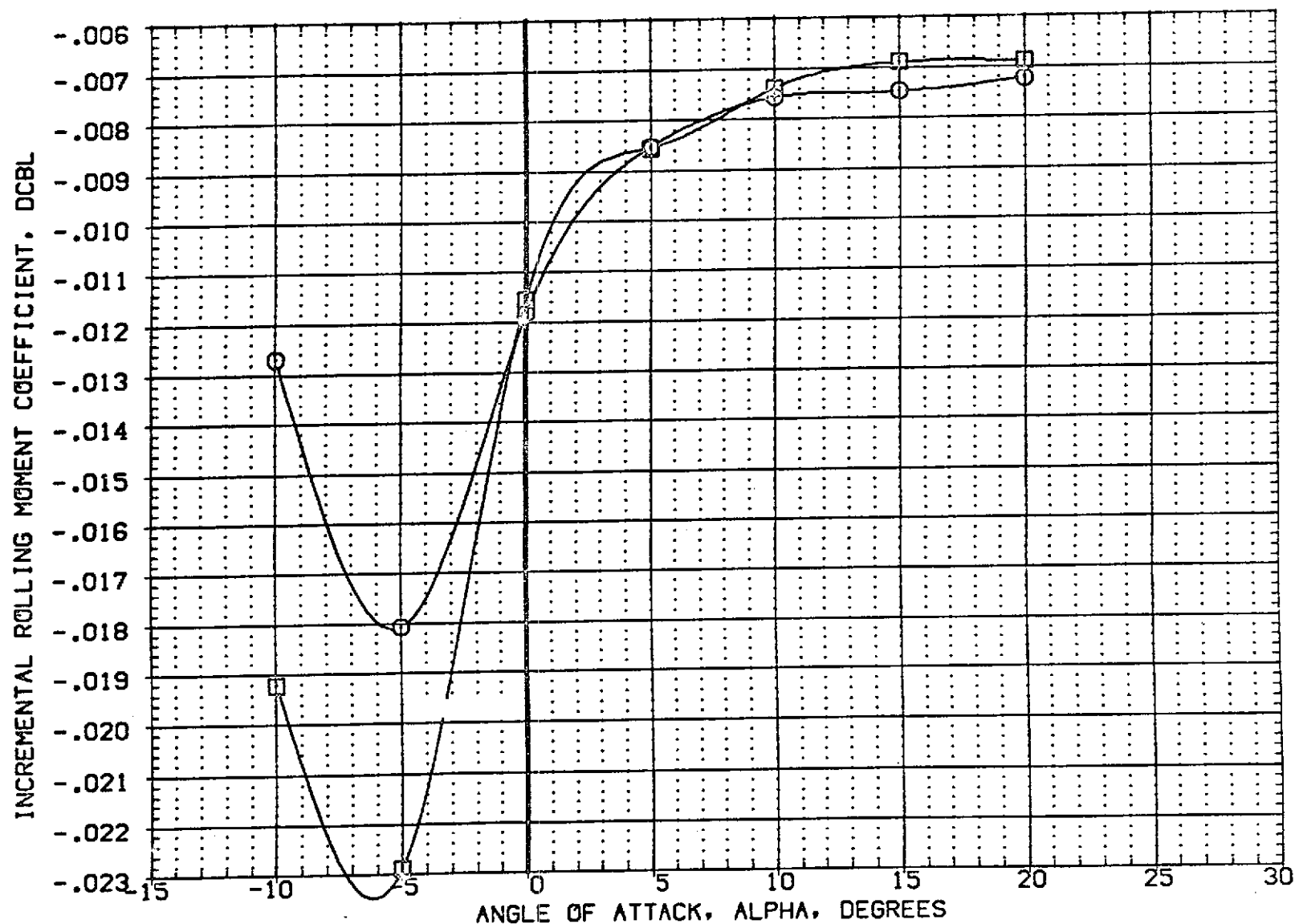


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1012)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL
(CH1028)	1A-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL

PCPCS	ELEVON	AILRON	SPOBRK
446.000	.000	.000	.000
446.000	.000	.000	55.000

REFERENCE INFORMATION		
SREF	38.7350	SO. IN.
LREF	4.7493	INCHES
BREF	9.3570	INCHES
XMXP	7.3500	INCHES
YMRP	.0000	INCHES
ZMRP	.9940	INCHES
SCALE	.0100	SCALE

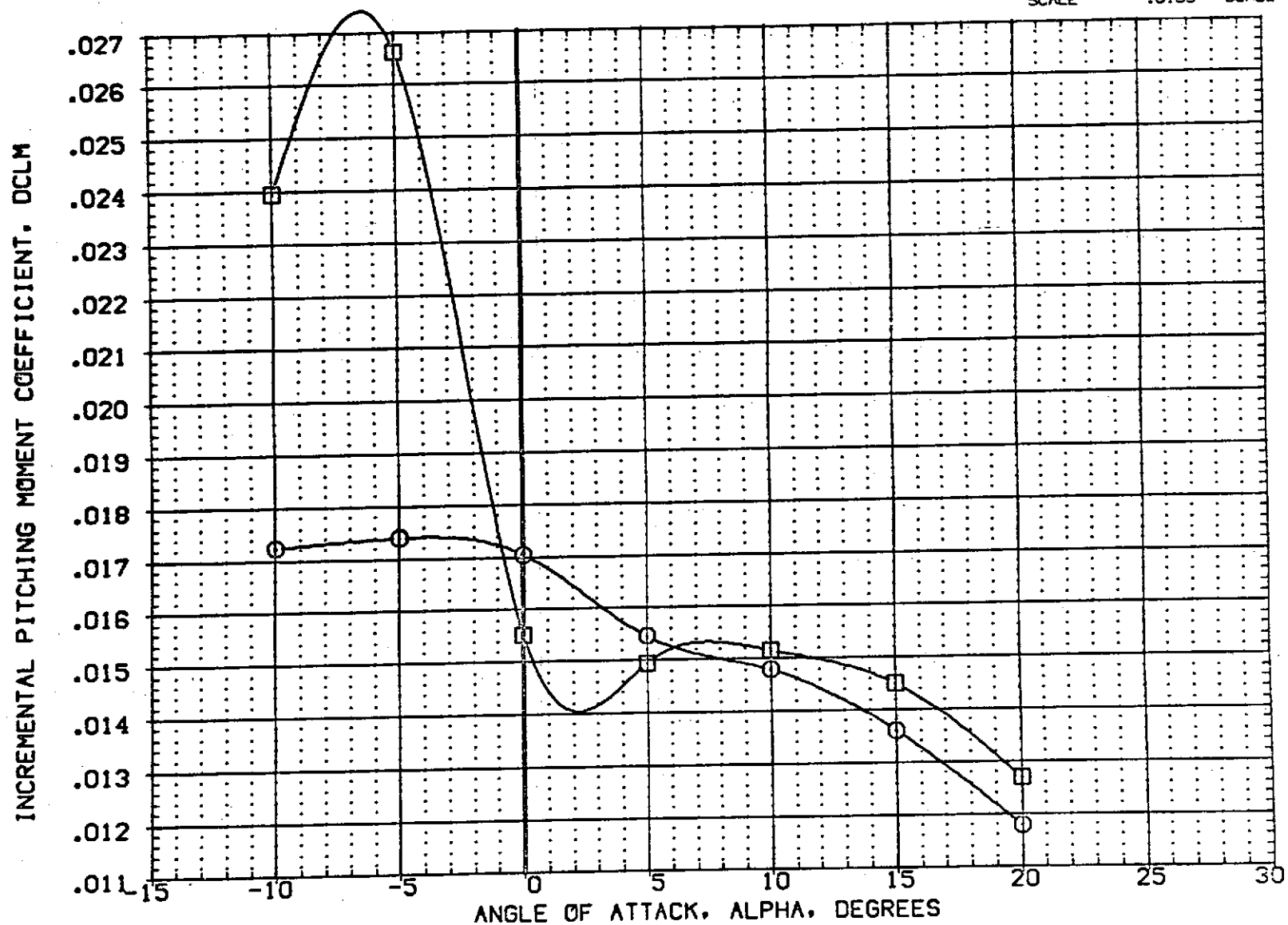


FIG 18 EFFECT OF SPOBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(CH1012)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	445.000	.000	.000	.000	SREF	39.7250	SQ. IN.
(CH1028)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	.000	55.000	LREF	4.7400	INCHES
						BREF	9.3570	INCHES
						XGRP	7.3550	INCHES
						YGRP	.0000	INCHES
						ZGRP	.5540	INCHES
						SCALE	.0100	SCALE

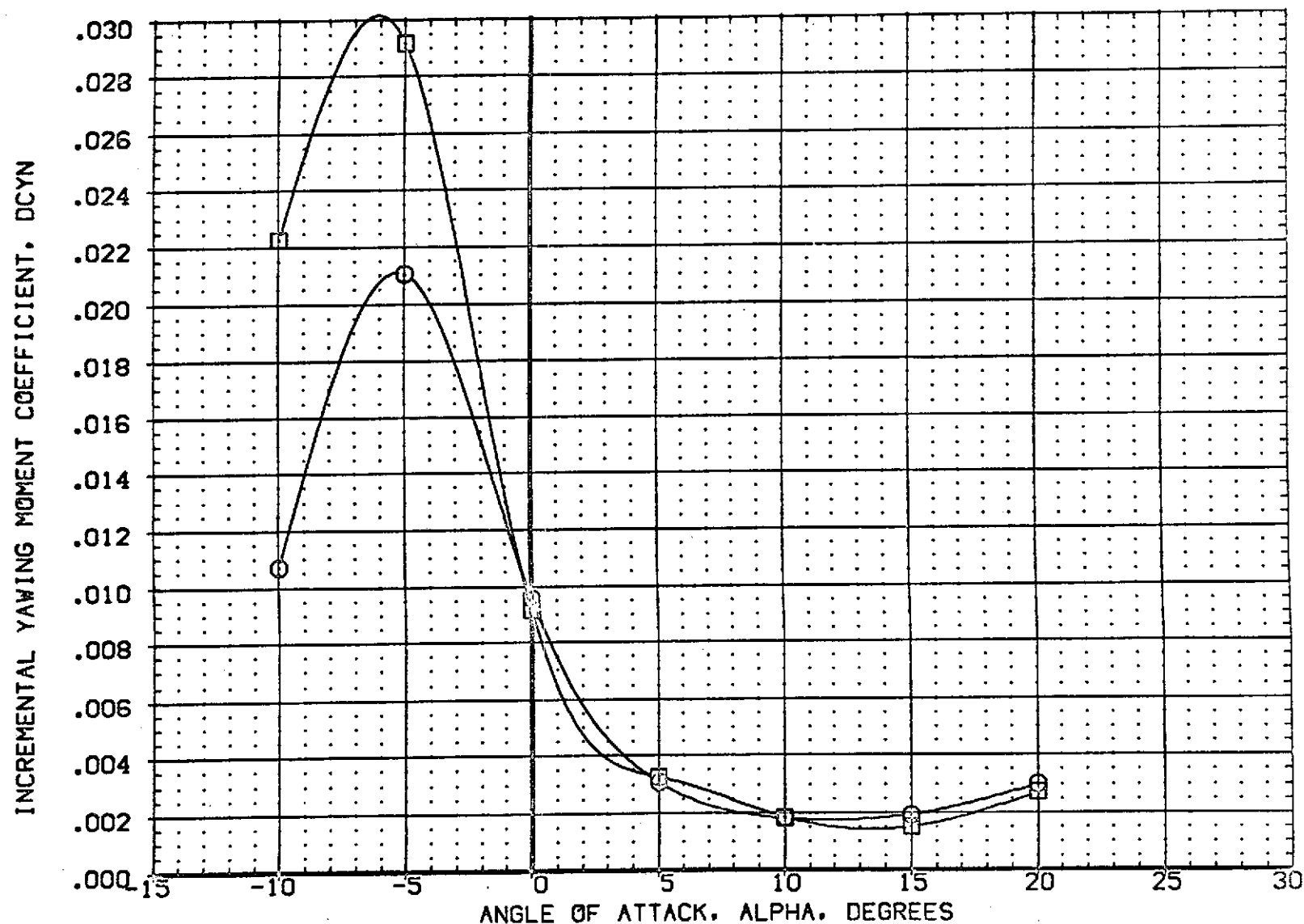


FIG 18 EFFECT OF SPOBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION	
(R4112N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 NS2 ROLL	446.000	.000	.000	.000	SREF	38.7360 SQ. IN.
(R4126N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49NS2 ROLL	446.000	.000	.000	55.000	LREF	4.7480 INCHES
(R4102F)	IA-60 CFHT108 MODEL 32-OT (0 T)NS2 RCS OFF	.000	.000	.000	.000	BREF	9.5570 INCHES
(R4105F)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 NS2 RCS OFF	.000	.000	.000	55.000	XMRP	7.5550 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

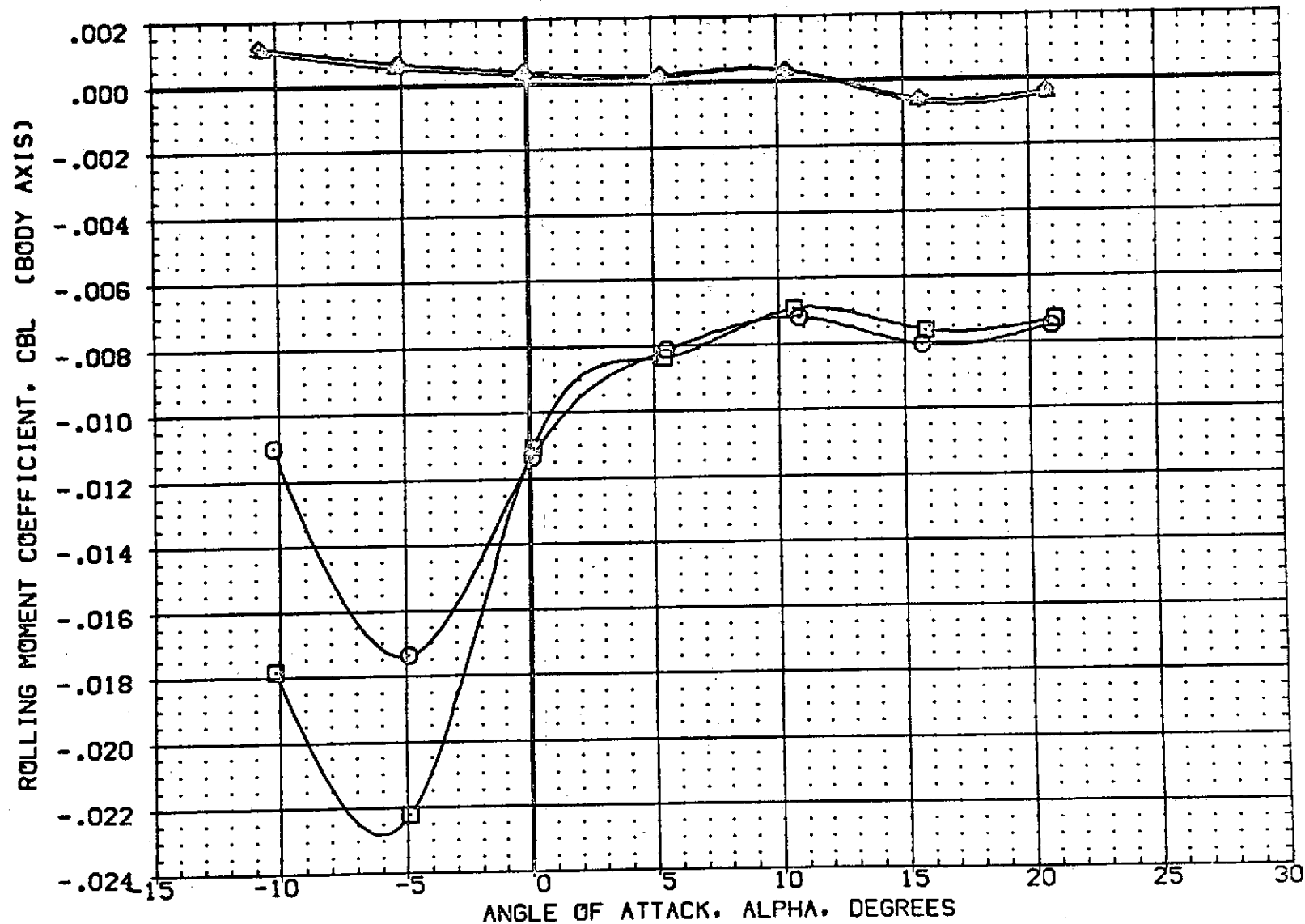


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49NS2 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH112N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	446.000	.000	.000	.000	SREF	33.7360	SO. IN.
(RH122N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	446.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N52	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH102F)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3800	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0000	INCHES
						SCALE	.0100	SCALE

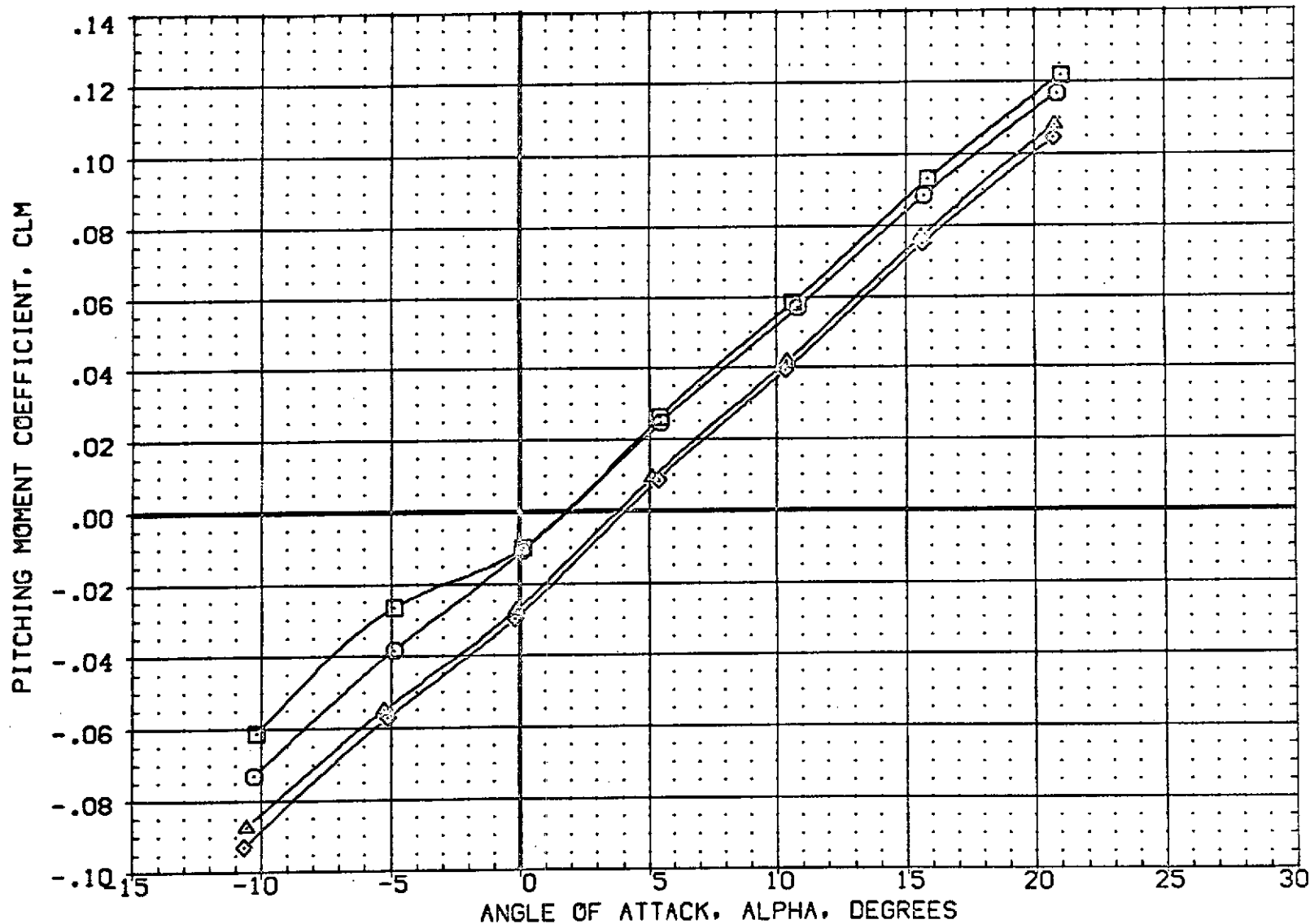


FIG 18 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH112N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 ROLL	446.000	.000	.000	.000	SREF	38.7360	50.1N.
(RH128N)	IA-60 CFHT108 MODEL 32-OT (0 T)N49N52 ROLL	446.000	.000	.000	55.000	LREF	4.7480	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	X-RP	7.3590	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5540	INCHES
						SCALE	.0100	SCALE

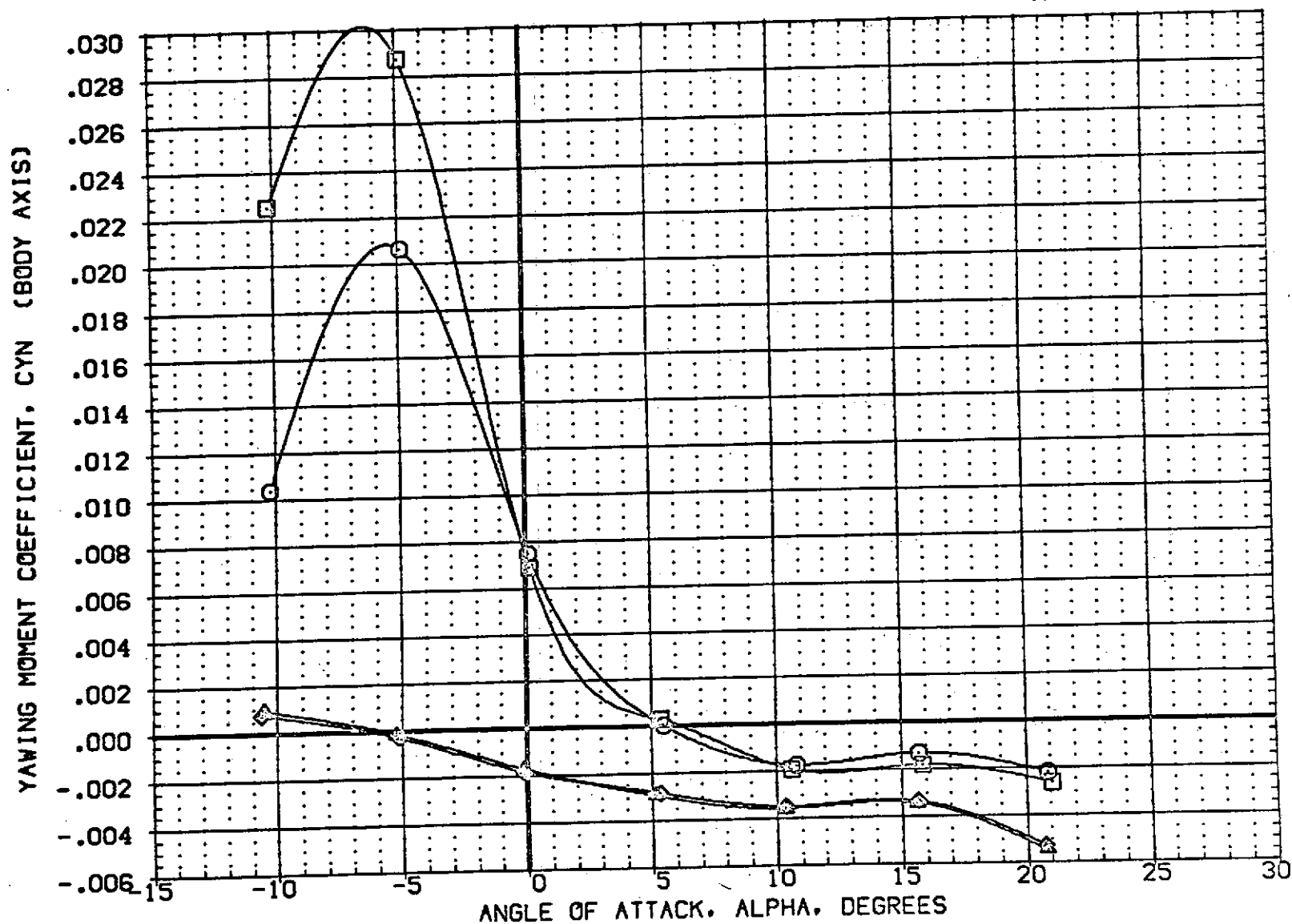


FIG 18 EFFECT OF SPOBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

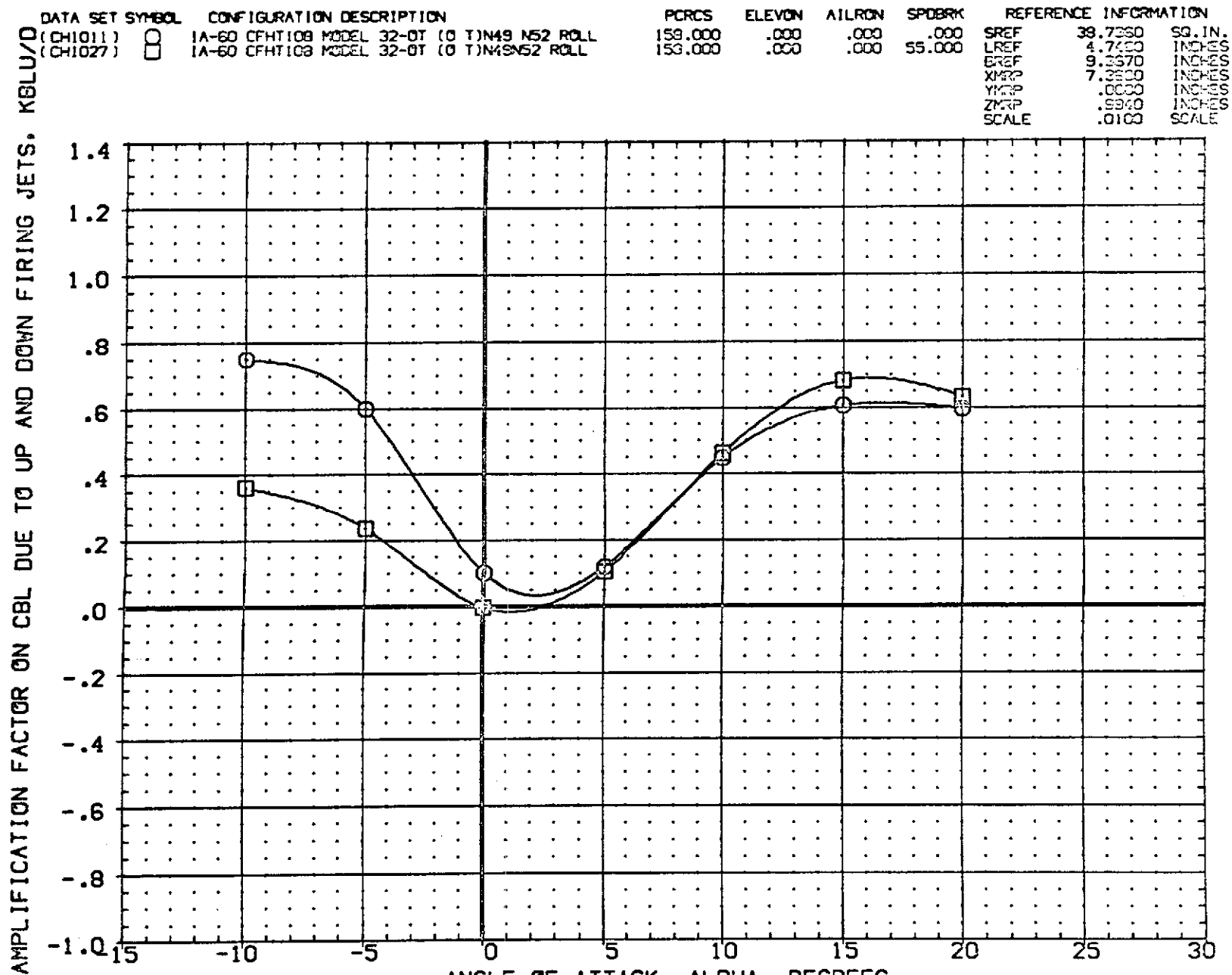


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1011)	□ 1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL
(CH1027)	□ 1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCPCS	ELEVON	AILRON	SPOBRK
158.000	.000	.000	.000
158.000	.000	.000	55.000

REFERENCE INFORMATION		
SREF	38.7320	SO. IN.
LREF	4.7480	INCHES
BREF	9.2670	INCHES
XREF	7.2800	INCHES
YREF	.0000	INCHES
ZREF	.9940	INCHES
SCALE	.0100	SCALE

CROSS COUPLING FACTOR ON CLM DUE TO UP AND DOWN FIRING JETS. KM.BL2

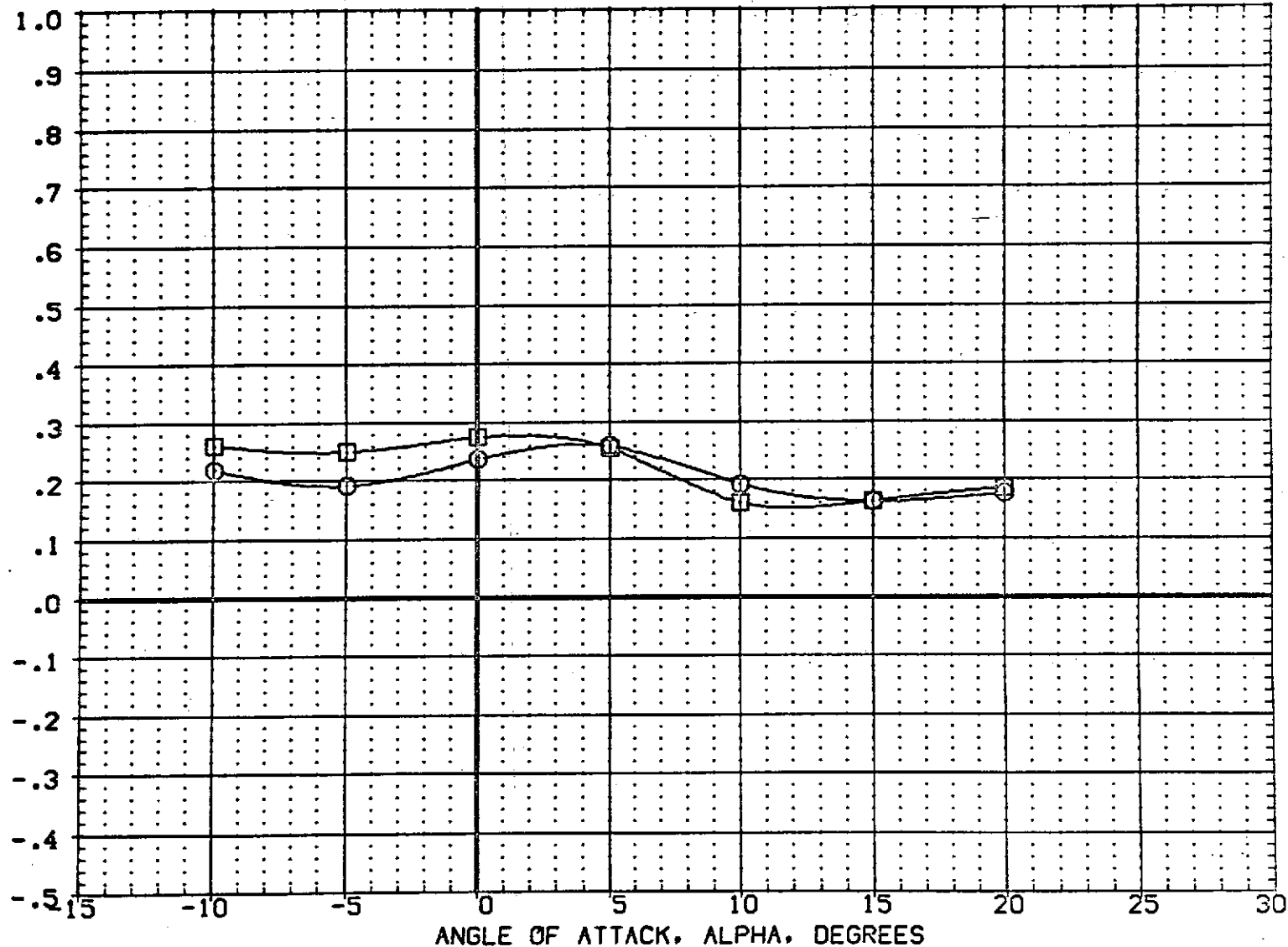


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1011)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL
(CH1027)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL

PCRC5	ELEVON	AILRON	SPDBRK
158.000	.000	.000	.000
158.000	.000	.000	55.000

REFERENCE INFORMATION	
SREF	38.7350 SQ. IN.
LREF	4.7420 INCHES
BREF	9.3570 INCHES
XMRP	7.3500 INCHES
YMRP	.0000 INCHES
ZMRP	.9940 INCHES
SCALE	.0100 SCALE

CROSS COUPLING FACTOR ON CYN DUE TO UP AND DOWN FIRING JETS, KYN.L2

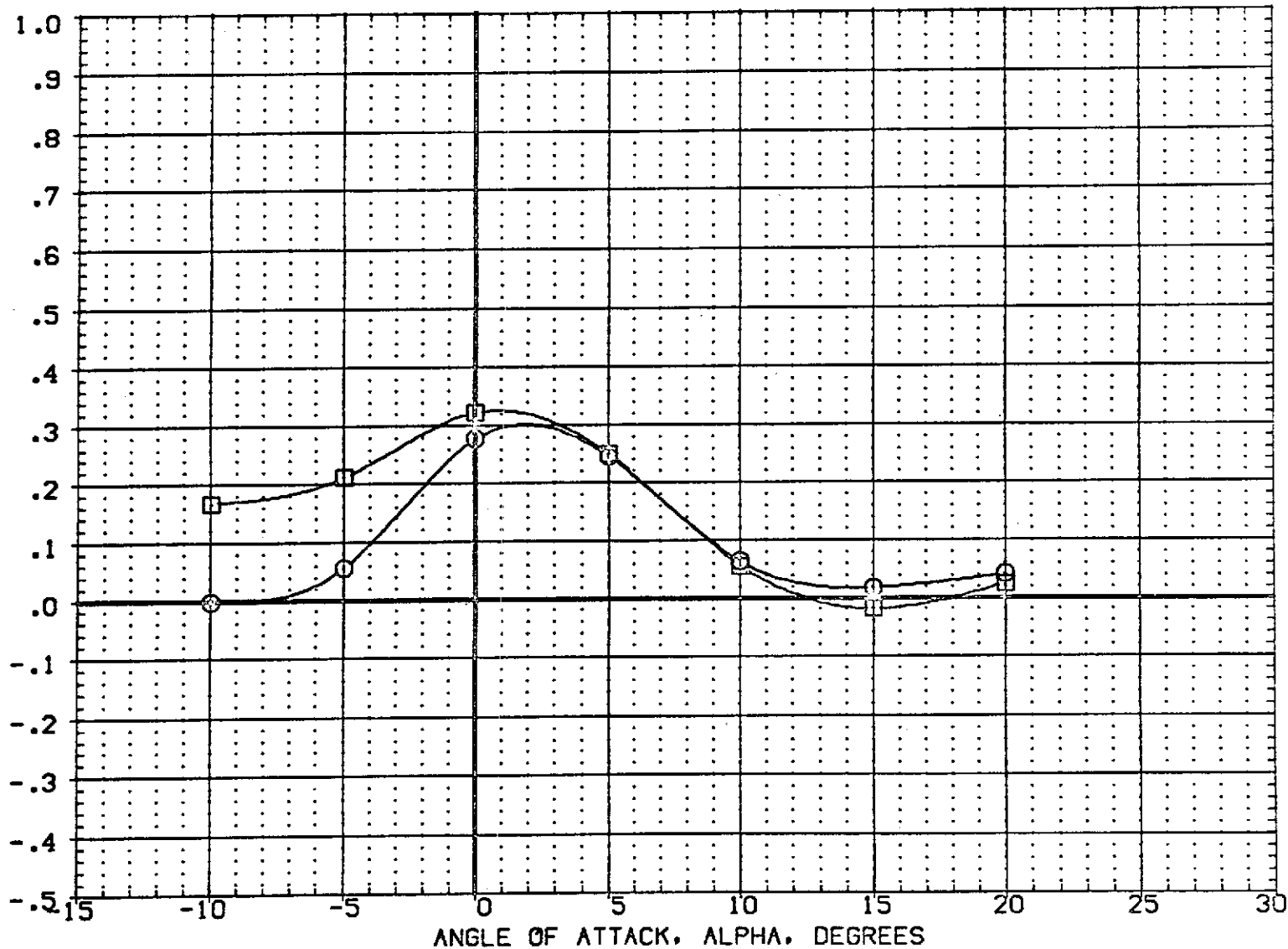


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1011)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	SREF	33.7330 SQ. IN.
(CH1027)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	.000	55.000	LREF	4.7460 INCHES
						BREF	9.3570 INCHES
						YREF	7.3660 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

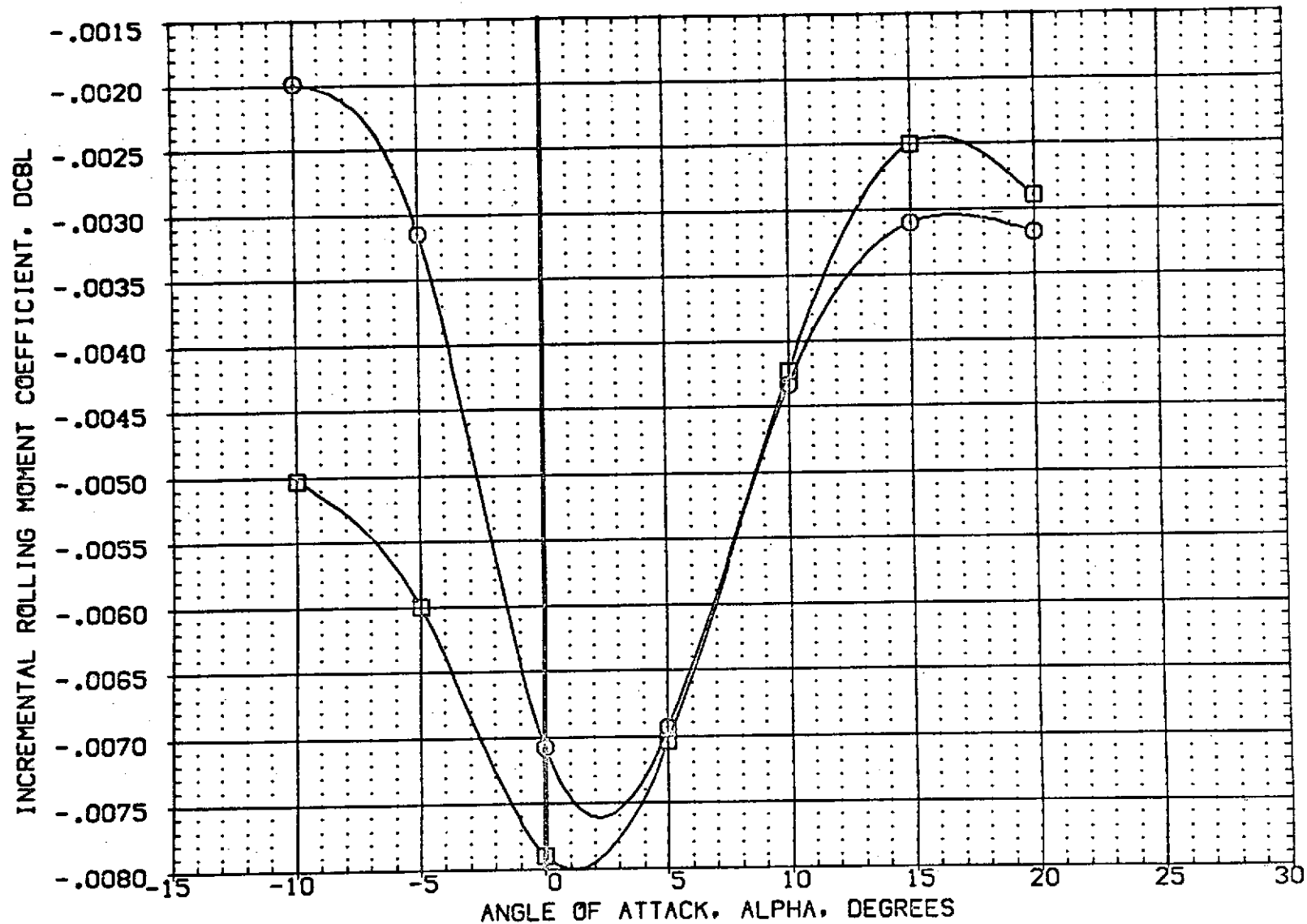


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(CH1011)	IA-60 CFHT103 MODEL 32-0T (0 TJN49 N52 ROLL
(CH1027)	IA-60 CFHT103 MODEL 32-0T (0 TJN49N52 ROLL

PCRC	ELEVON	AILRON	SPDBRK
159.000	.000	.000	.000
153.000	.000	.000	55.000

REFERENCE INFORMATION		
SREF	39.7250	50. IN.
LREF	4.7480	INCHES
BREF	9.3670	INCHES
XMRP	7.3800	INCHES
YMRP	.0000	INCHES
ZMRP	.9900	INCHES
SCALE	.0100	SCALE

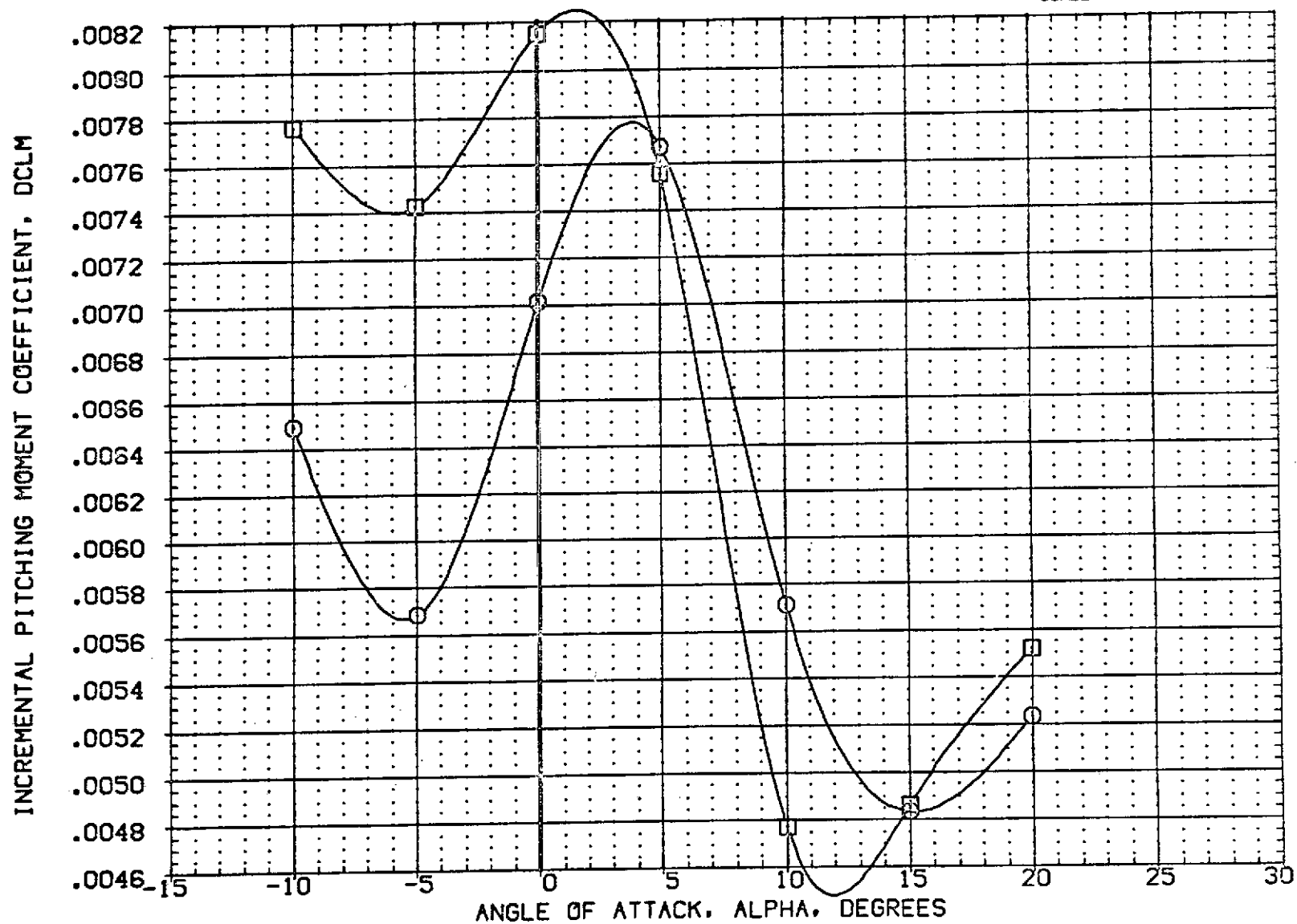


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1011)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	SREF	33.7360 SQ. IN.
(CH1027)	IA-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	.000	55.000	LREF	4.7480 INCHES
						BREF	9.3670 INCHES
						XREF	7.3860 INCHES
						YREF	.0000 INCHES
						ZREF	.9940 INCHES
						SCALE	.0100 SCALE

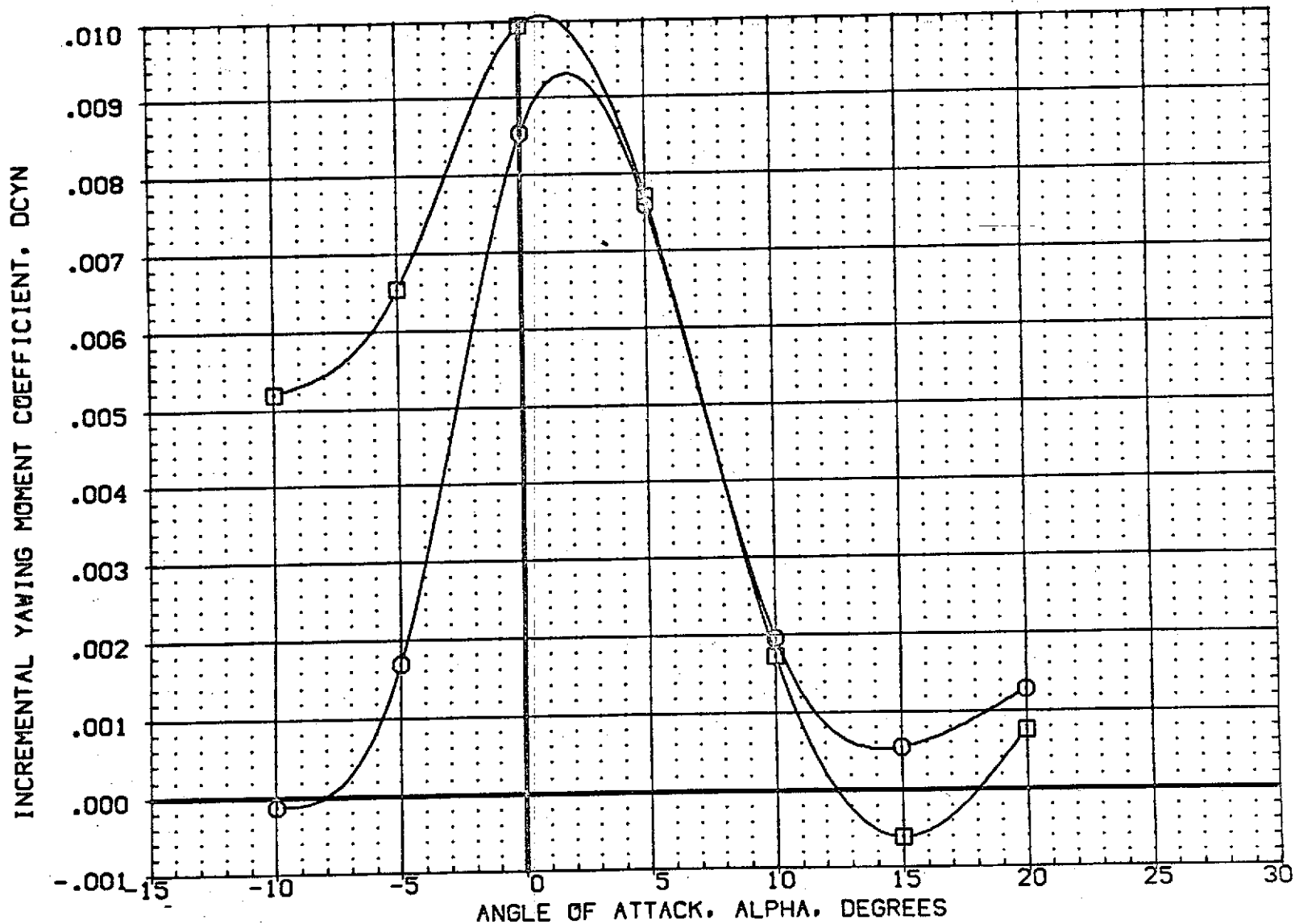


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH111N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	SREF	39.7350	50. IN.
(RH127N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XMRP	7.3830	INCHES
						YMRP	.0000	INCHES
						ZMRP	.5970	INCHES
						SCALE	.0100	SCALE

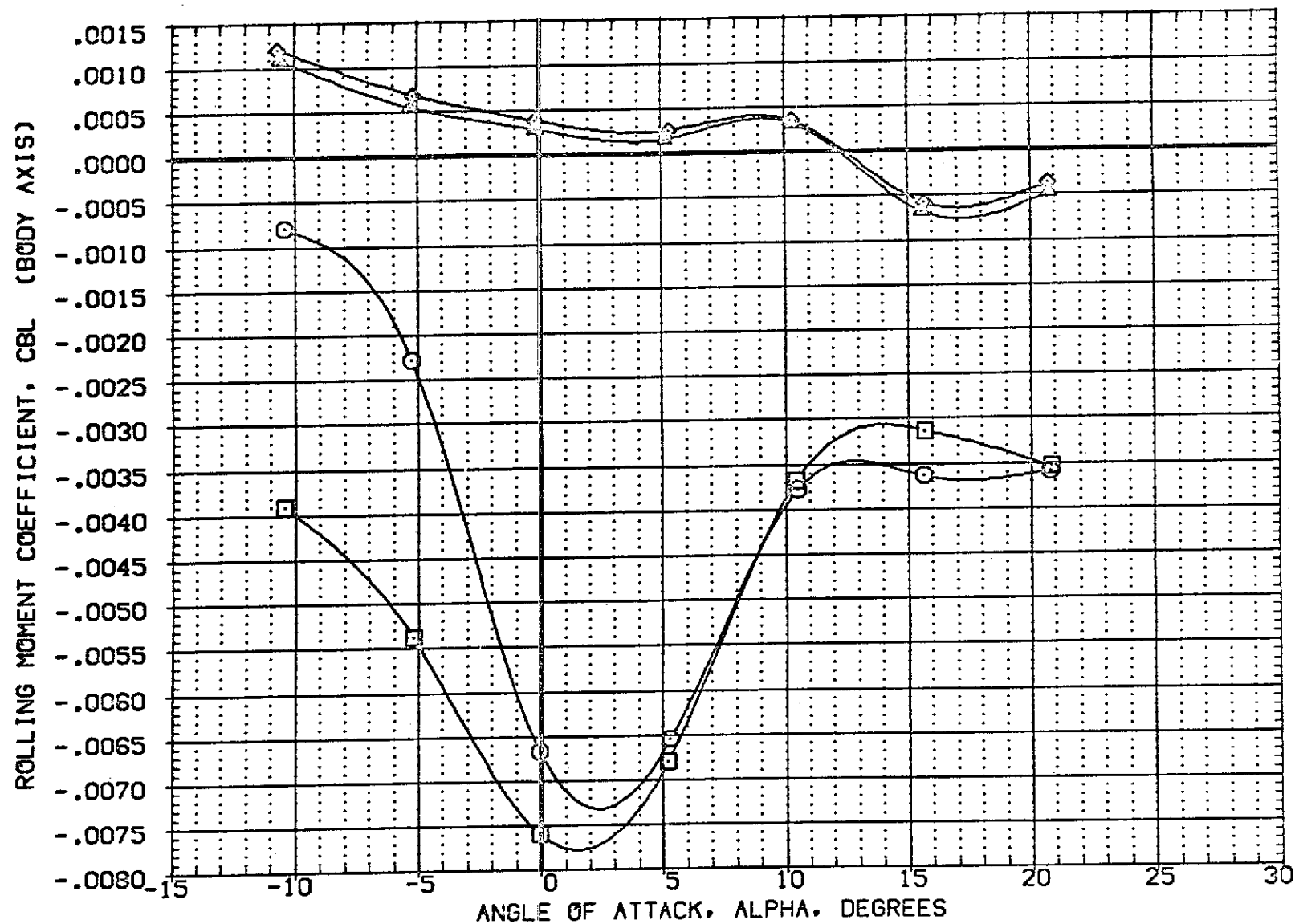


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH111N)	1A-60 CFHT108 MODEL 32-0T (0) T1N49 N52 ROLL	158.000	.000	.000	.000	SREF	39.7380	50. IN.
(RH127N)	1A-60 CFHT103 MODEL 32-0T (0) T1N49 N52 ROLL	153.000	.000	.000	.000	LREF	4.7480	INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0) T1N52 RCS OFF	.000	.000	.000	.000	BREF	9.3870	INCHES
(RH103F)	1A-60 CFHT108 MODEL 32-0T (0) T1N49 N52 RCS OFF	.000	.000	.000	.000	XMRP	7.3300	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

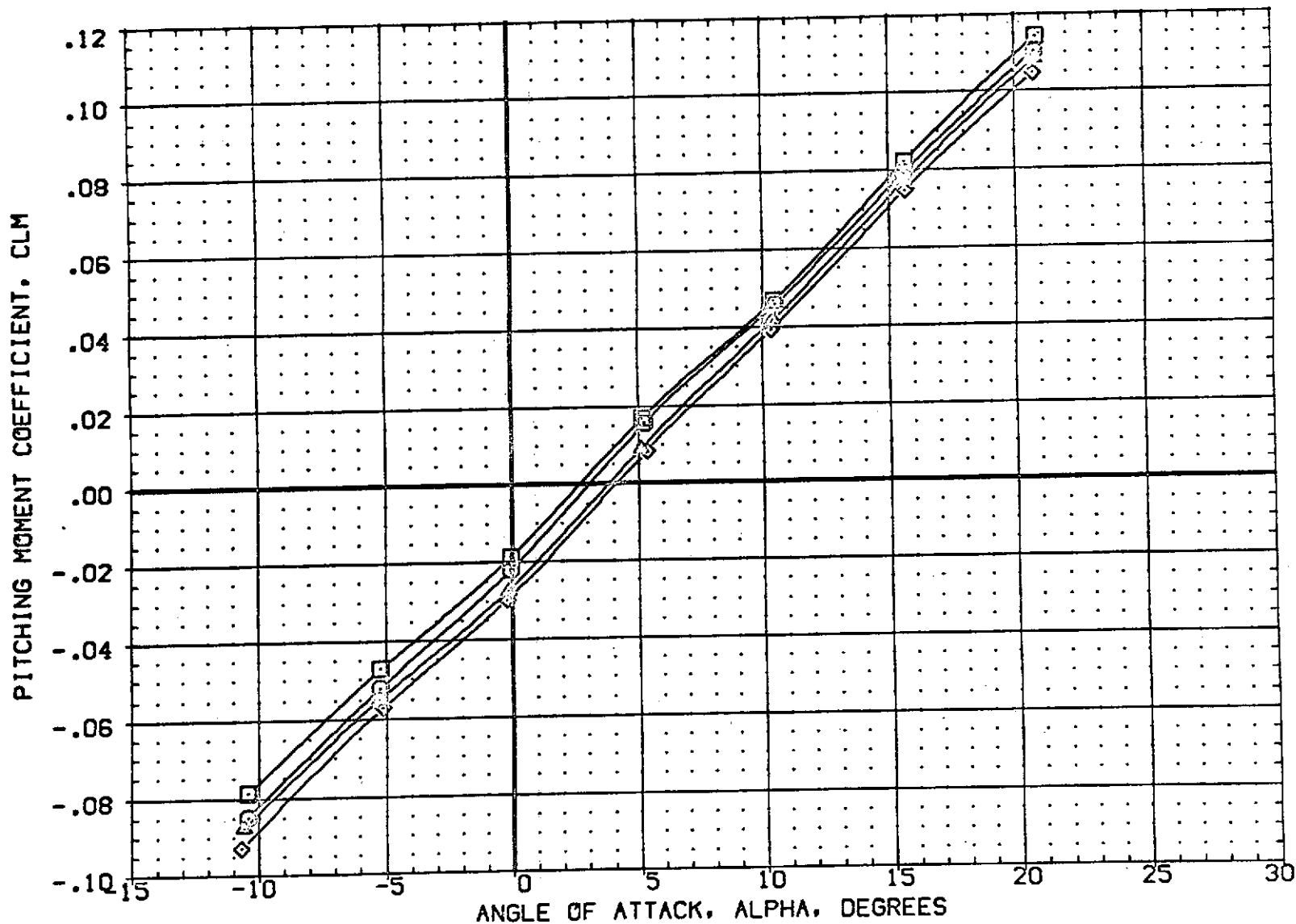


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRCSS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH111N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 ROLL	158.000	.000	.000	.000	SREF	33.7330	SQ. IN.
(RH127N)	1A-60 CFHT108 MODEL 32-0T (0 T)N49N52 ROLL	158.000	.000	.000	55.000	LREF	4.7400	INCHES
(RH102F)	1A-60 CFHT108 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	BREF	9.3670	INCHES
(RH105F)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 N52 RCS OFF	.000	.000	.000	55.000	XGRP	7.3800	INCHES
						YGRP	.0000	INCHES
						ZGRP	.9940	INCHES
						SCALE	.0100	SCALE

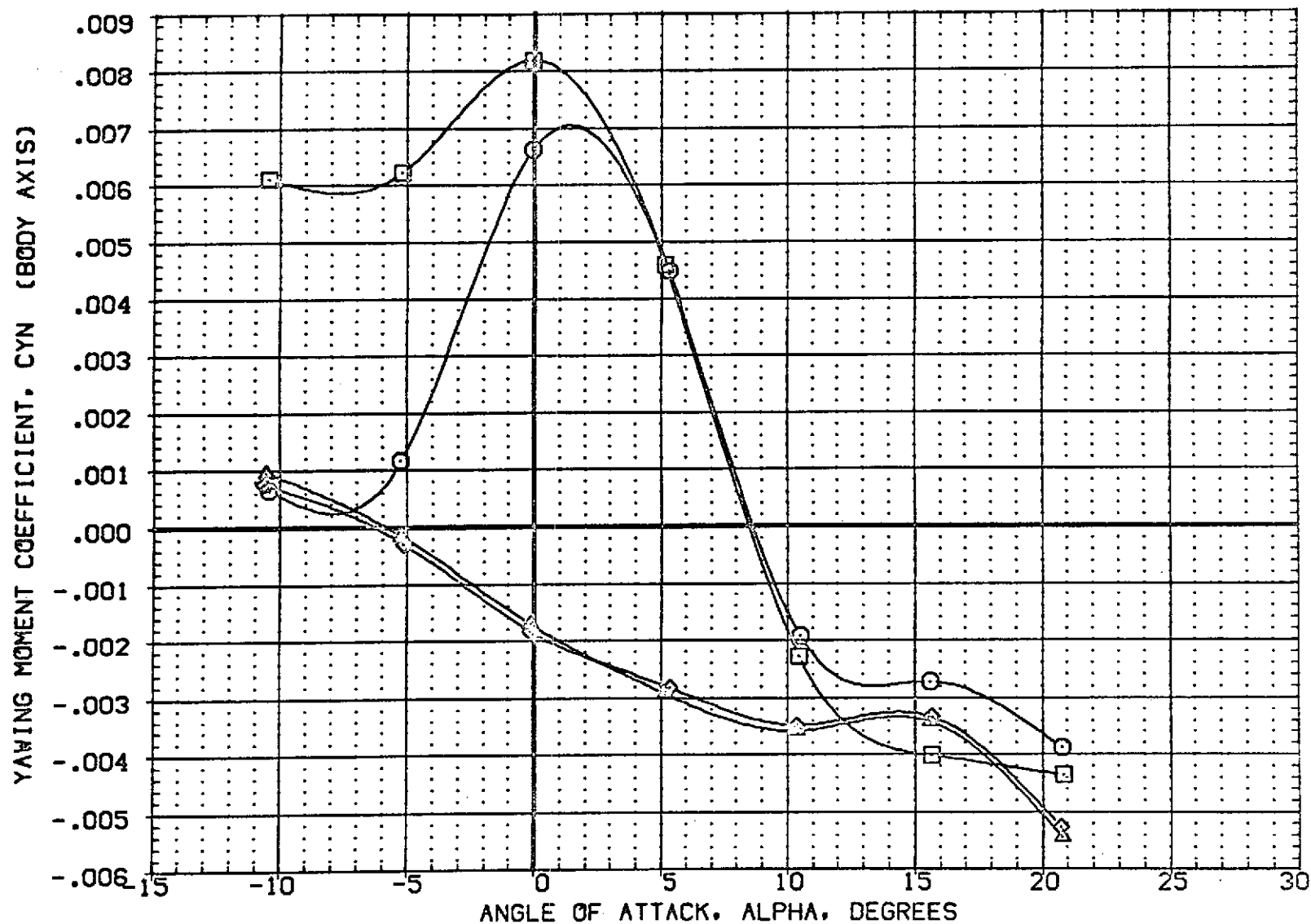


FIG 19 EFFECT OF SPDBRK DEFLECTION ON N49N52 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	504.000	-20.000	.000	.000	SREF	39.7380 SQ. IN.
(CH1016)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	504.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	504.000	15.000	.000	.000	BREF	9.3670 INCHES
						XYCP	7.3590 INCHES
						YCP	.0000 INCHES
						ZCP	.9340 INCHES
						SCALE	.0100 SCALE

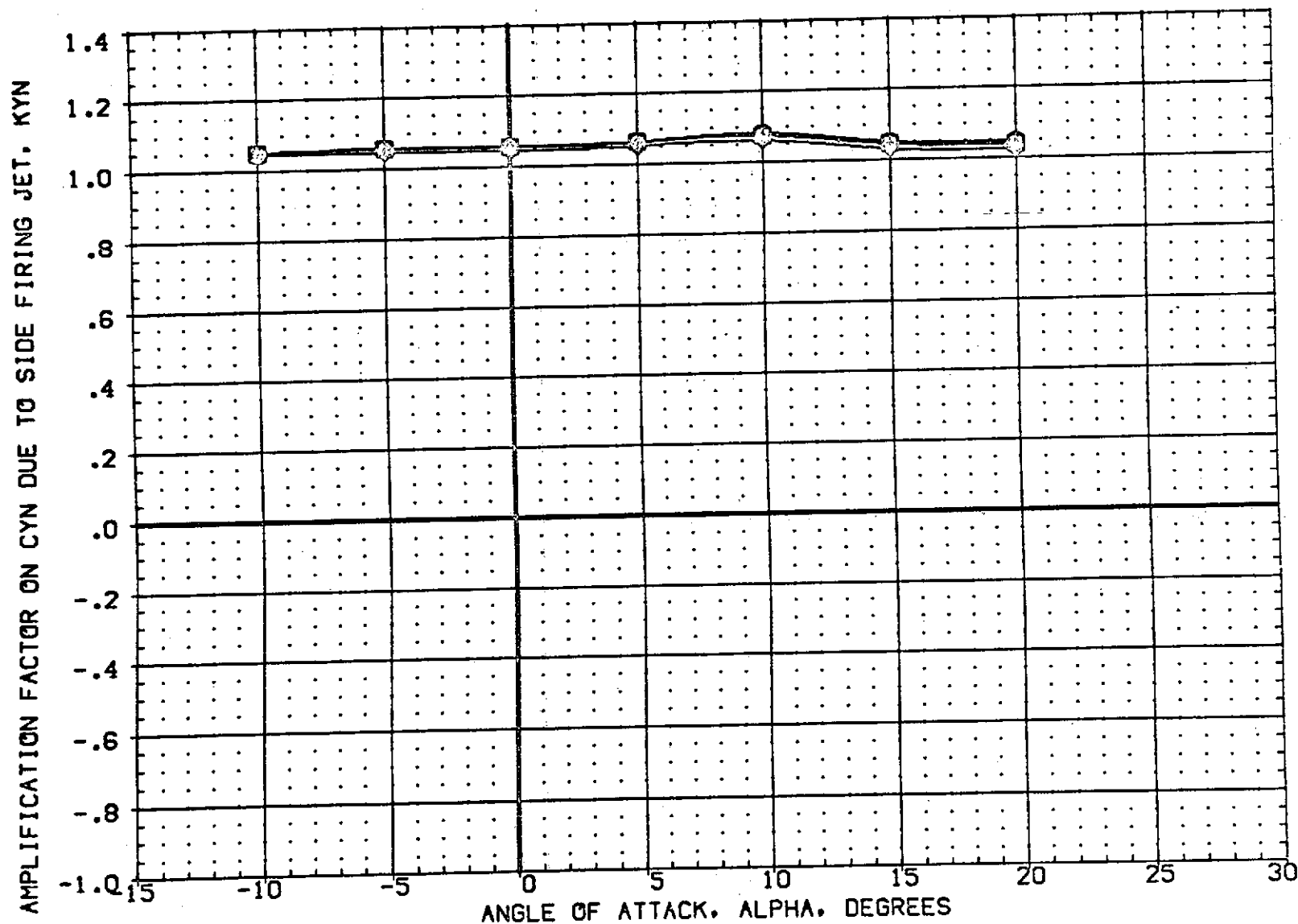


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW LH	504.000	-20.000	.000	.000	SREF	33.7350 SQ. IN.
(CH1016)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW LH	504.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW	504.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5000 INCHES
						SCALE	.0100 SCALE

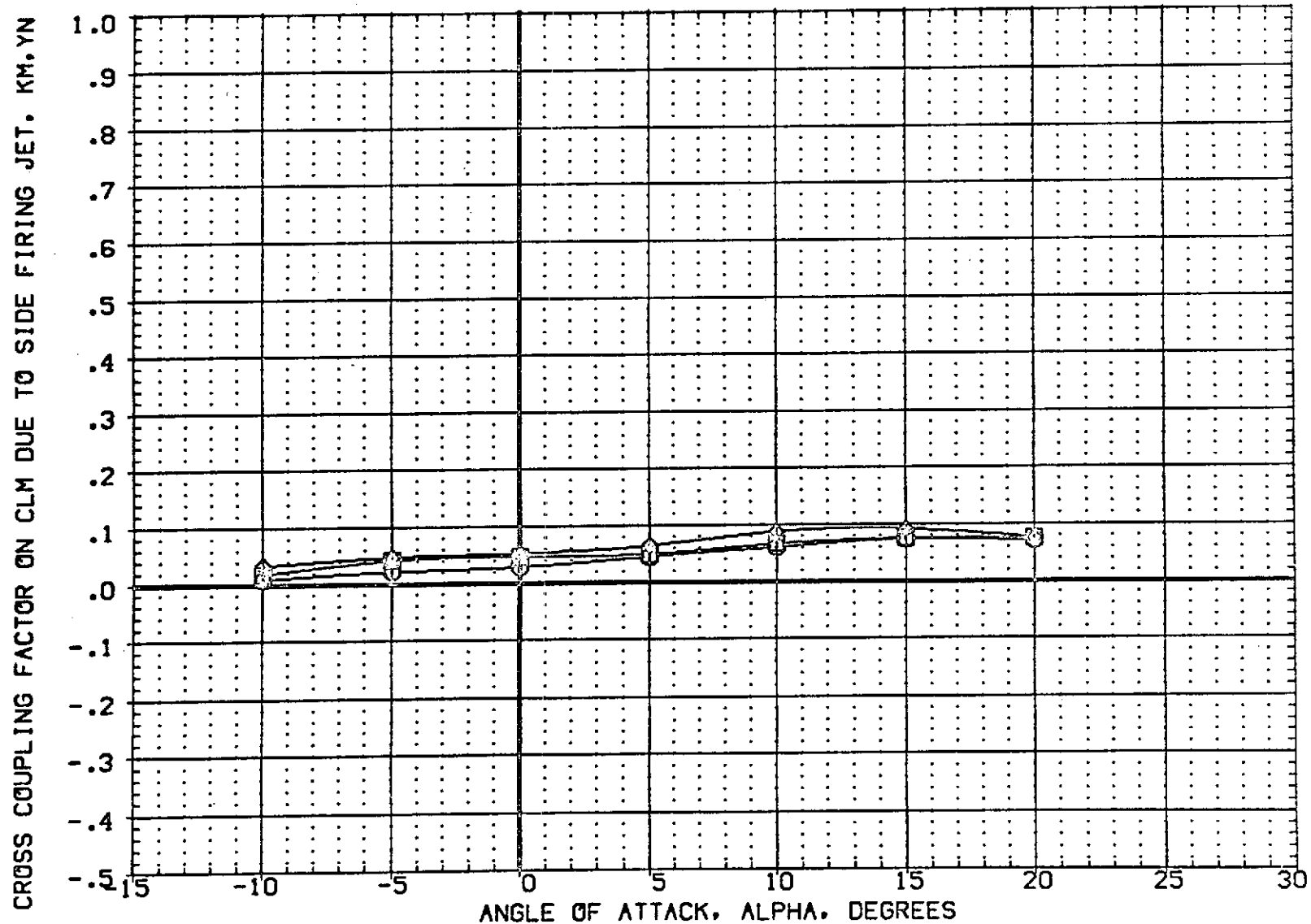


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	YAW LH	PCRS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT108 MODEL 32-OT (0 T)NS1	YAW LH	504.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1016)	IA-60 CFHT108 MODEL 32-OT (0 T)NS1	YAW LH	504.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	YAW	504.000	15.000	.000	.000	BREF	9.2570 INCHES
							XREF	7.3360 INCHES
							YREF	.0000 INCHES
							ZREF	.9940 INCHES
							SCALE	.0100 SCALE

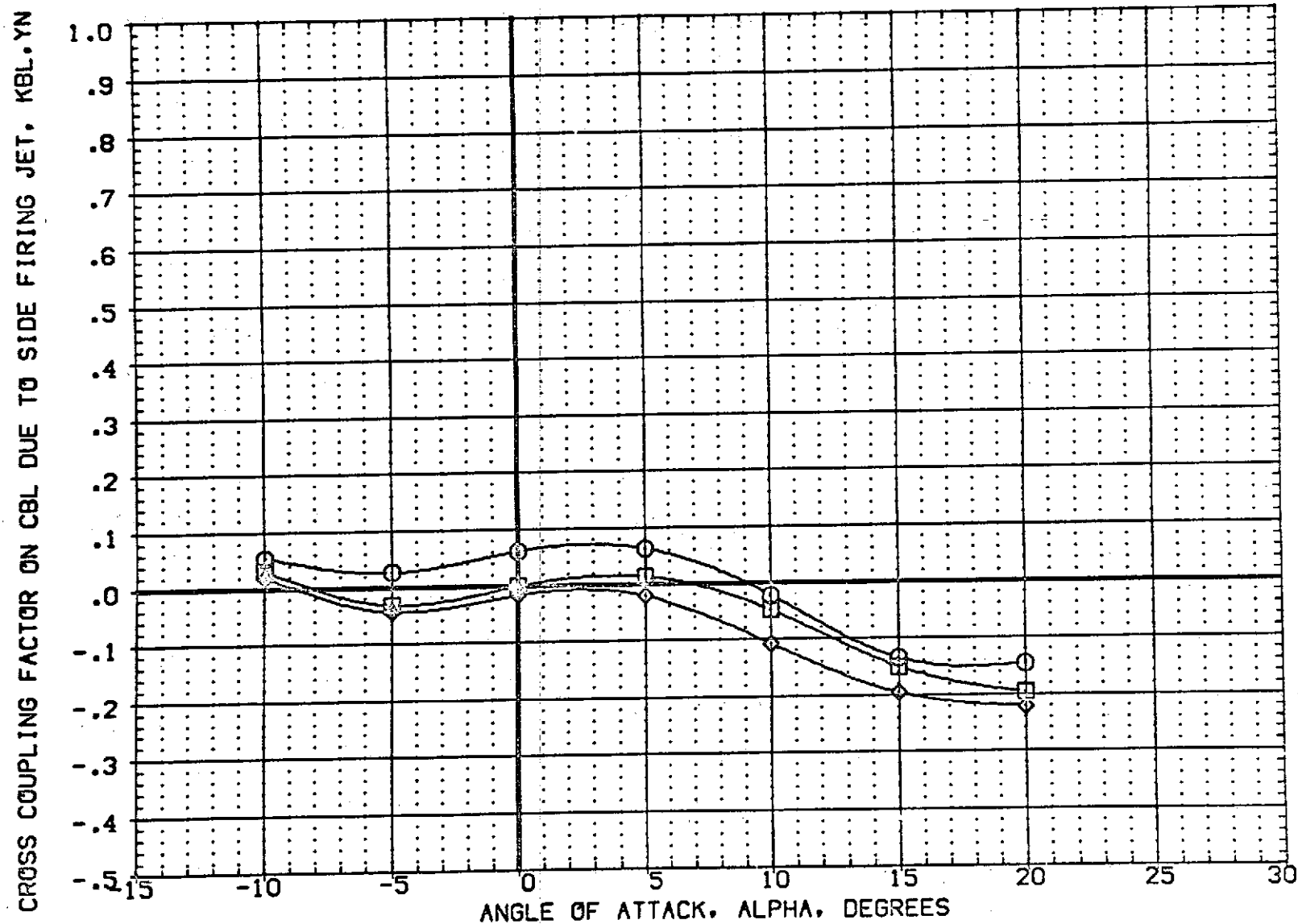


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW LH	504.000	-20.000	.000	.000	SREF	33.7350 SQ. IN.
(CH1016)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW LH	504.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW	504.000	15.000	.000	.000	BREF	9.2670 INCHES
						XGRP	7.2820 INCHES
						YGRP	.0000 INCHES
						ZGRP	.9370 INCHES
						SCALE	.0100 SCALE

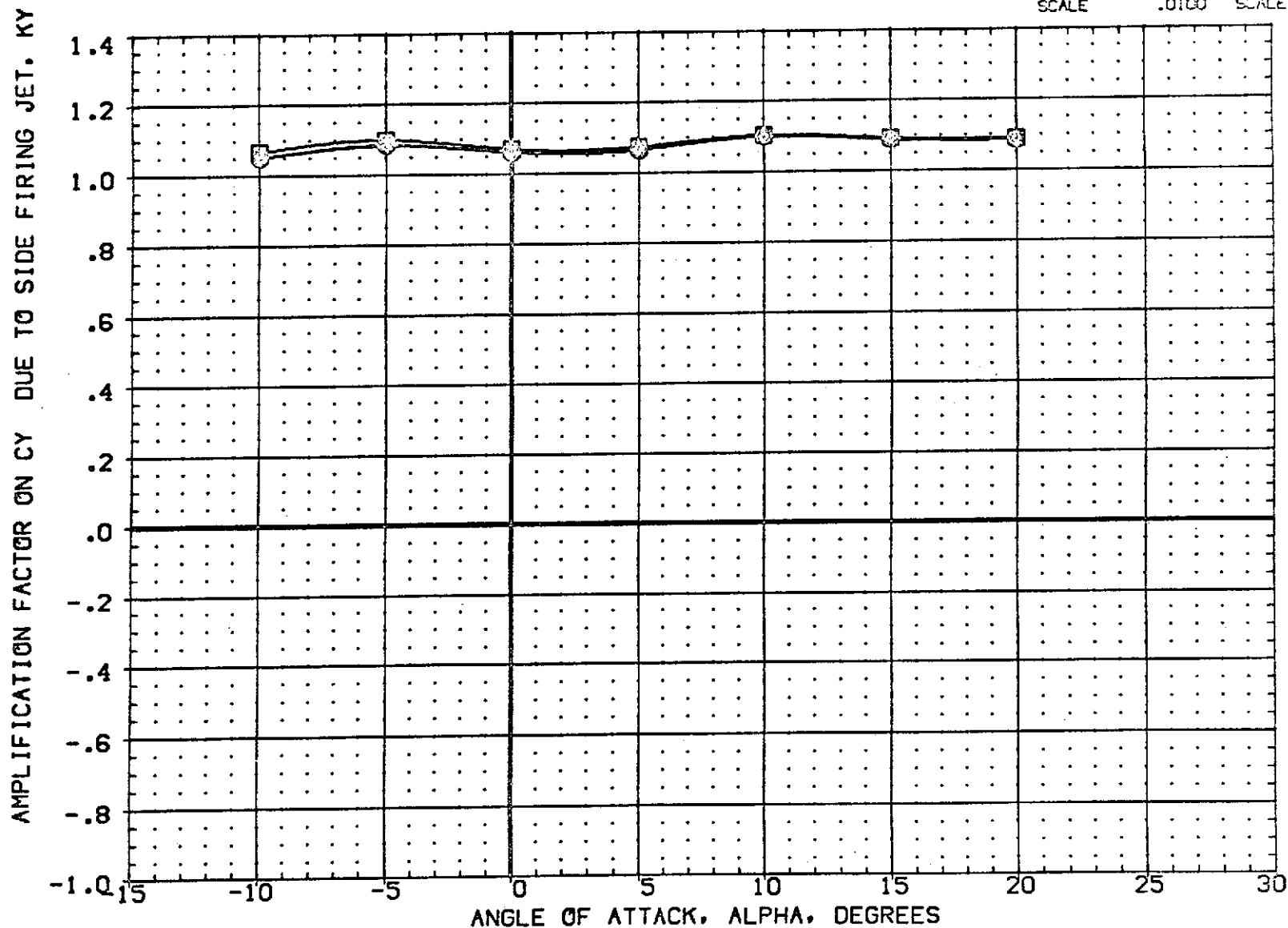


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1018) ○	1A-60 CFHT103 MODEL 32-OT (0 T) NS1 YAV LH	504.000	-20.000	.000	.000	SREF	38.7350 SQ. IN.
(CH1016) □	1A-60 CFHT103 MODEL 32-OT (0 T) NS1 YAV LH	504.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1002) ◇	1A-60 CFHT103 MODEL 32-OT (0 T) NS1 YAV	504.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.5560 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

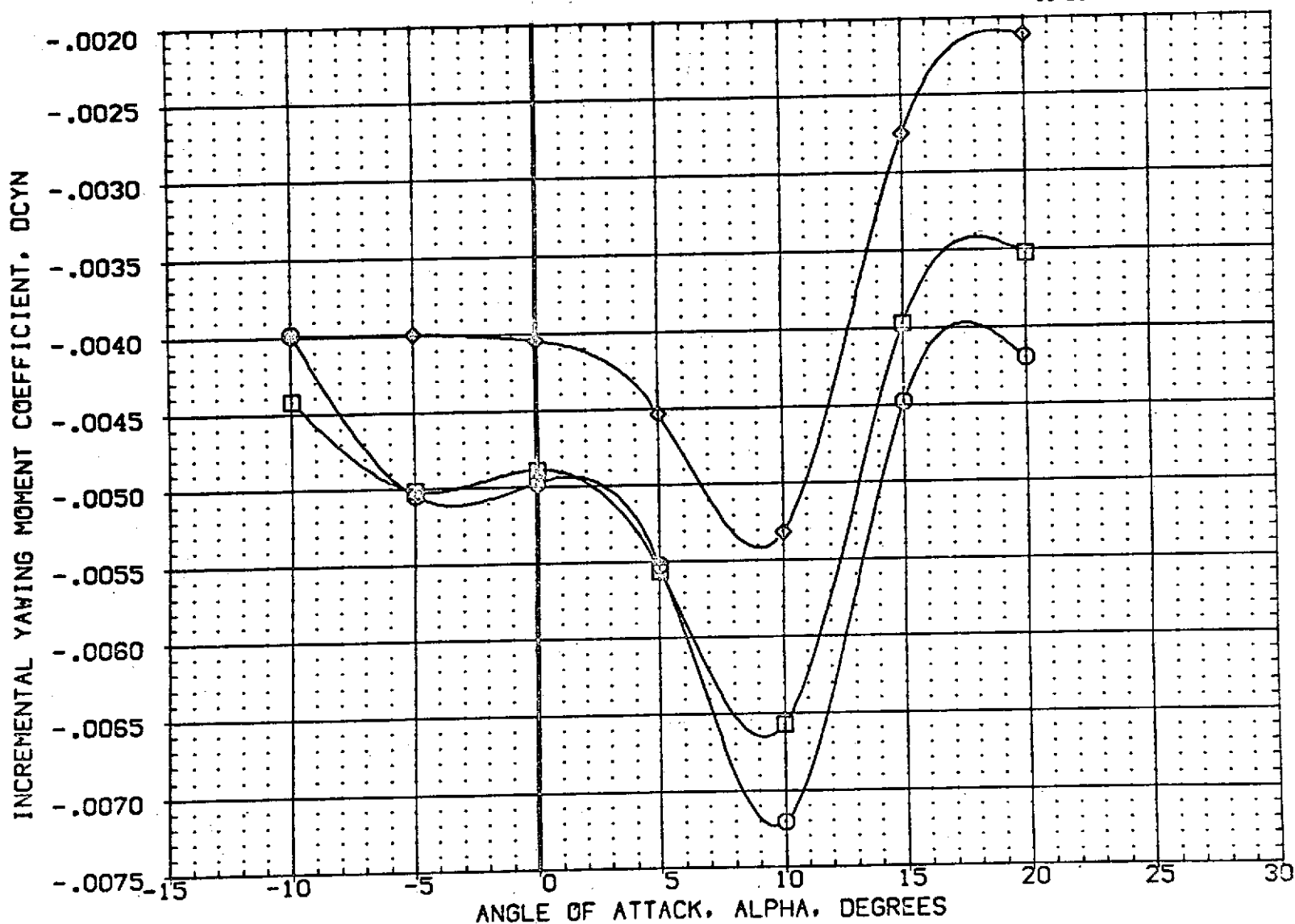


FIG 20 EFFECT OF ELEVON DEFLECTION ON NS1 JET INTERACTION, QSIM = 7 PSF  
 (A) MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAW LH	504.000	-20.000	.000	.000	SREF	38.7350 SQ. IN.
(CH1016)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAW LH	504.000	.000	.000	.000	LREF	4.7450 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAW	504.000	15.000	.000	.000	BREF	9.3570 INCHES
						XGRP	7.3550 INCHES
						YGRP	.0000 INCHES
						ZGRP	.0840 INCHES
						SCALE	.0100 SCALE

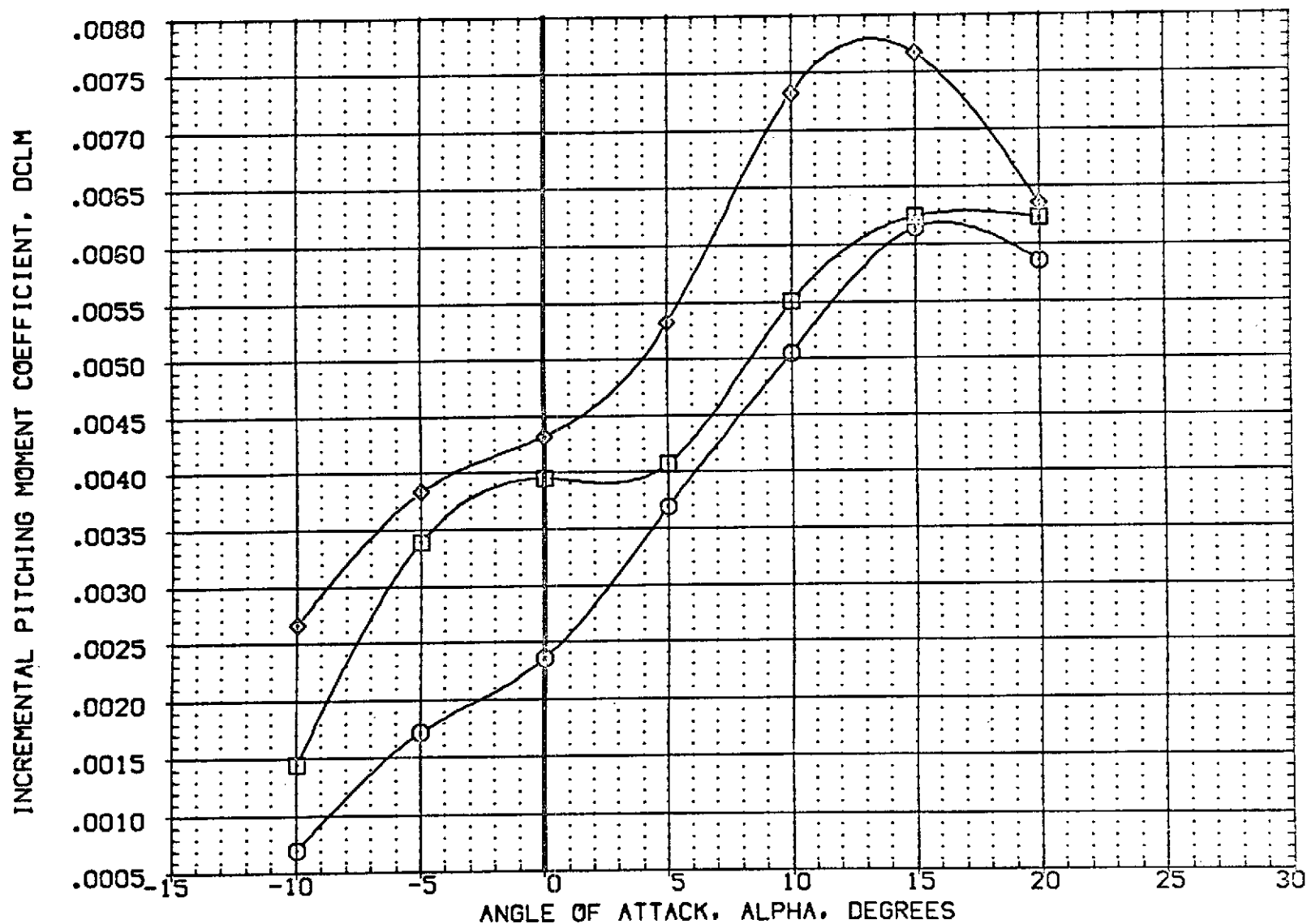


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT108 MODEL 32-0T (0 T)NSI YAV LH	504.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1016)	IA-60 CFHT108 MODEL 32-0T (0 T)NSI YAV LH	504.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1002)	IA-60 CFHT108 MODEL 32-0T (0 T)NSI YAV	504.000	15.000	.000	.000	BREF	9.3670 INCHES
						XMRP	7.3500 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

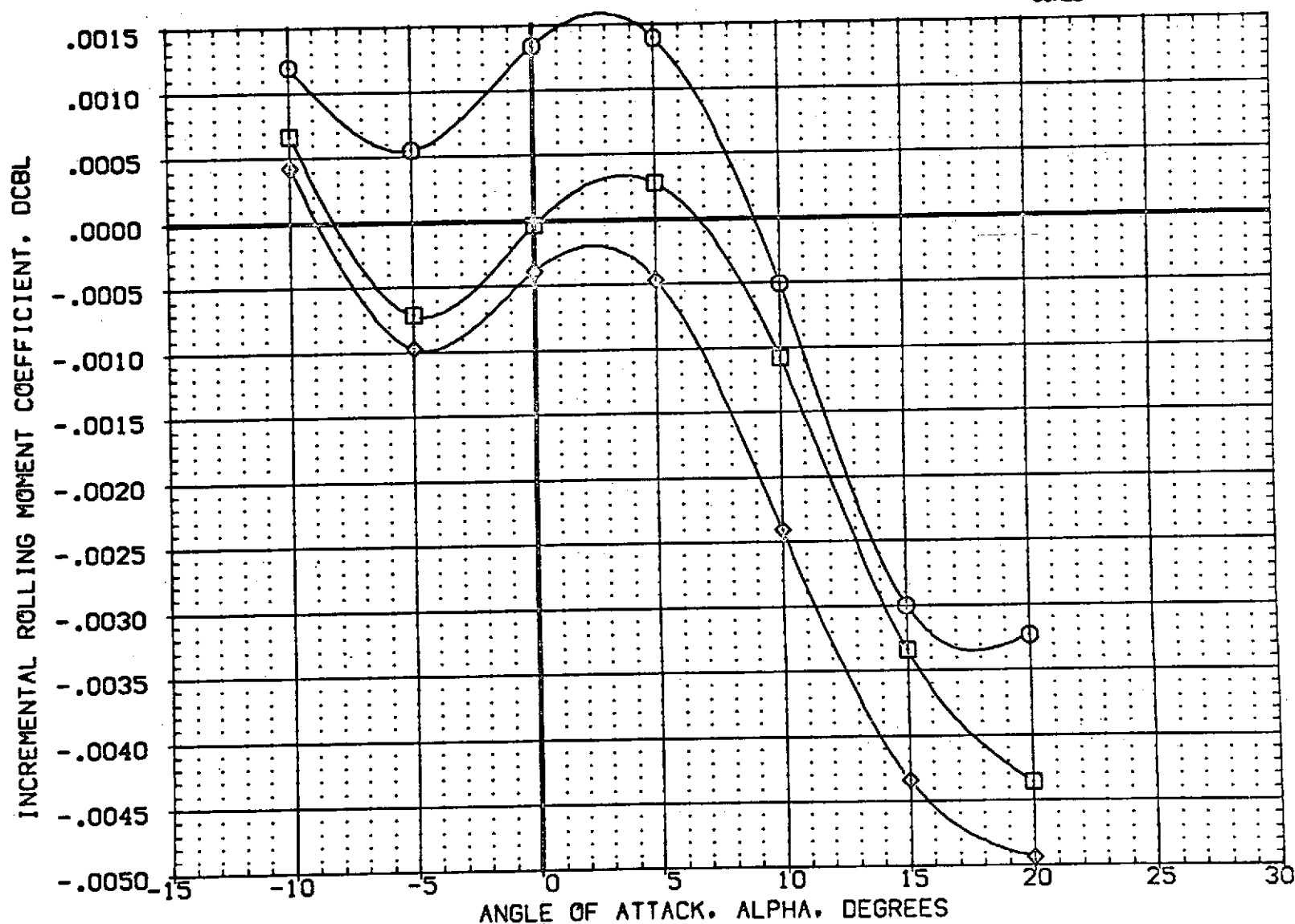


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1018)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 YAW LH	504.000	-20.000	.000	.000	SREF	39.7330 SQ. IN.
(CH1016)	IA-60 CFHT108 MODEL 32-0T (0 T)N51 YAW LH	504.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1002)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW	504.000	15.000	.000	.000	BREF	9.3670 INCHES
						XREF	7.3300 INCHES
						YREF	.0000 INCHES
						ZREF	.9940 INCHES
						SCALE	.0100 SCALE

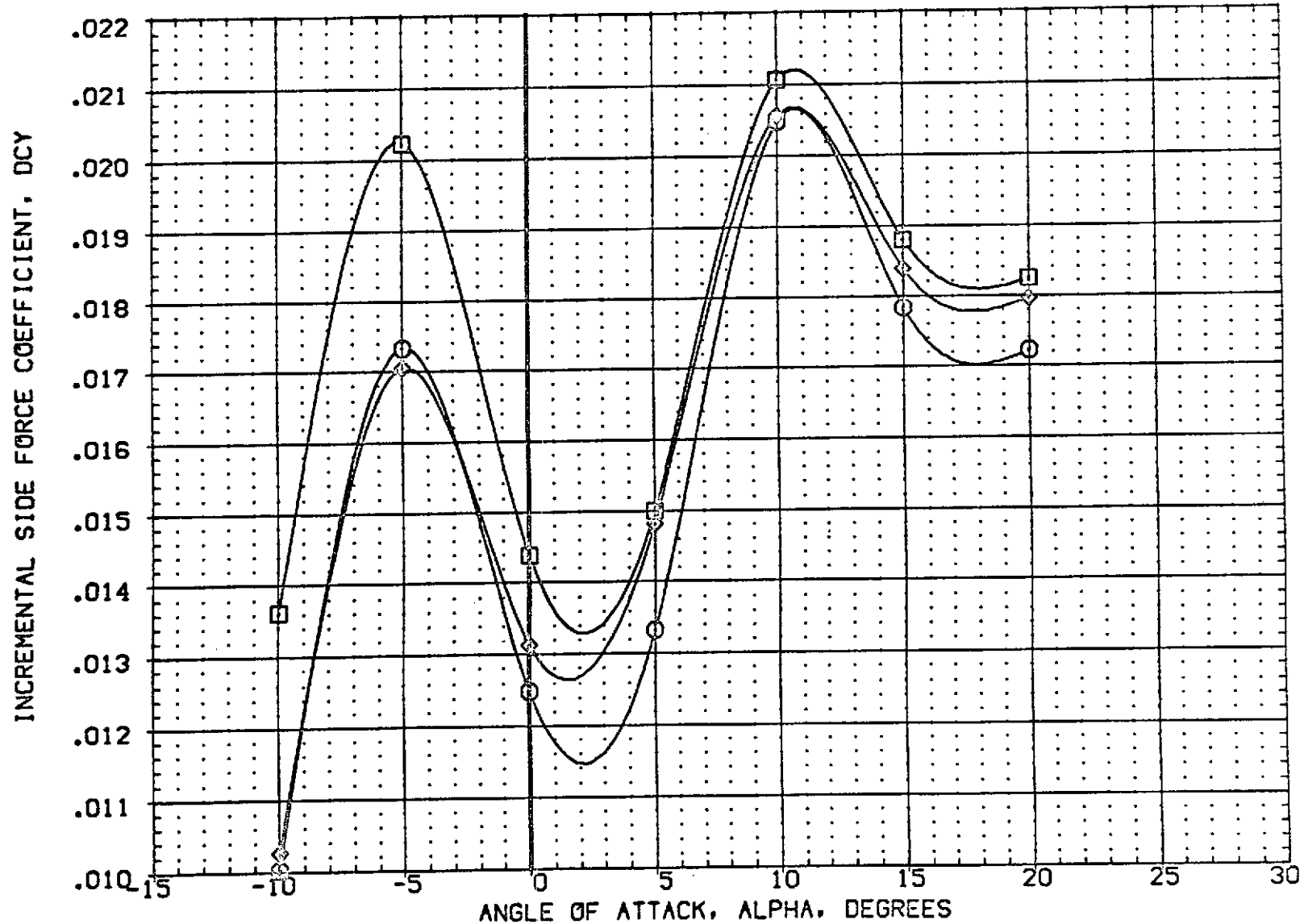


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION
(R4116V)	1A-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV LH	504.000	-20.000	.000	.000	SREF 39.7330 50. IN.
(R4116N)	1A-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV LH	504.000	.000	.000	.000	LREF 4.7420 INCHES
(R4102N)	1A-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV	504.000	15.000	.000	.000	BREF 9.2570 INCHES
(R4103F)	1A-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	-20.000	.000	.000	XGRP 7.3300 INCHES
(R4102F)	1A-60 CFHT103 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	YGRP .0000 INCHES
(R4101F)	1A-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	15.000	.000	.000	ZGRP .5640 INCHES
						SCALE .0100 SCALE

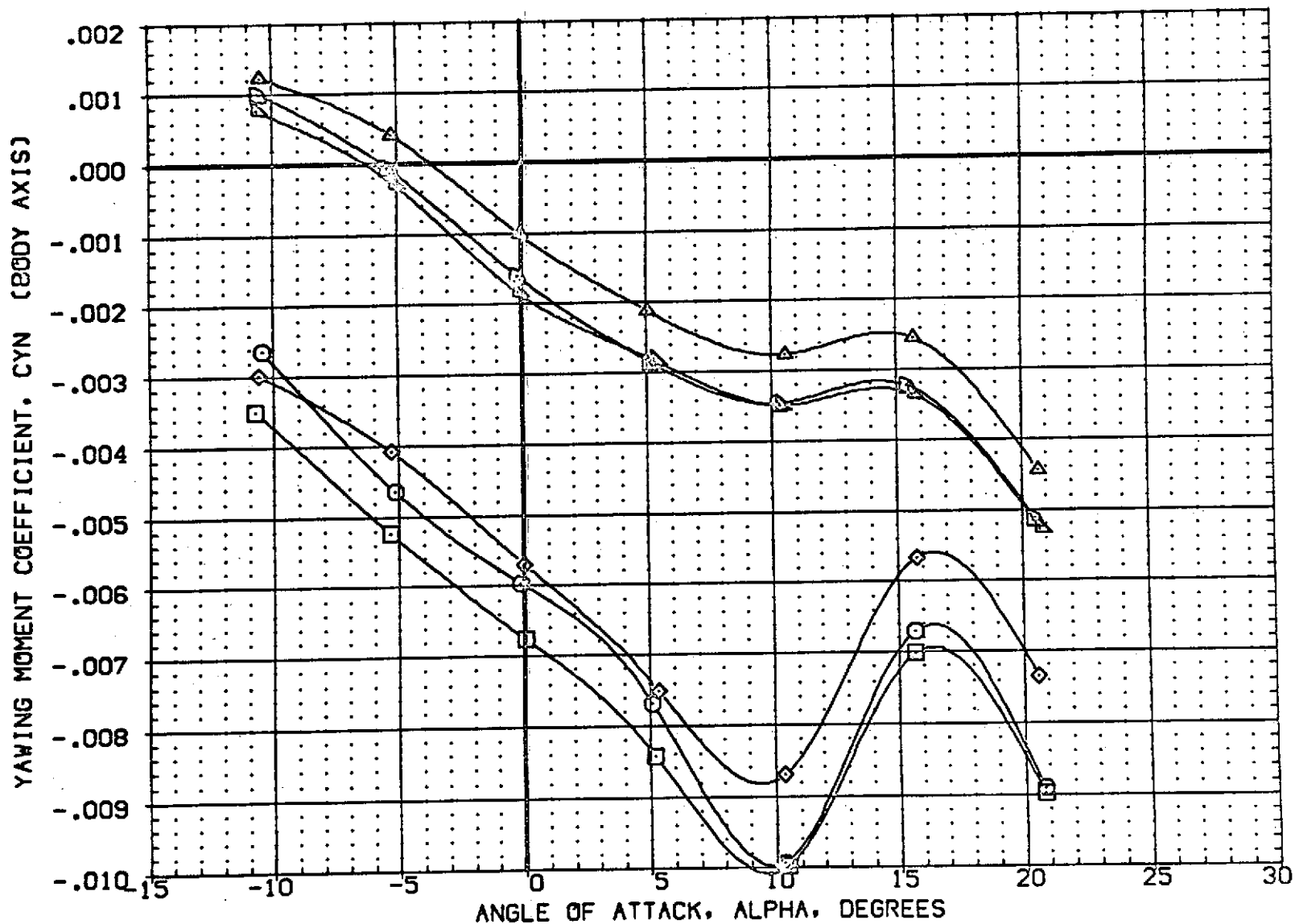


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PC RCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH118N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	YAV LH	504.000	-20.000	.000	SREF	33.7350	50. IN.
(RH116N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	YAV LH	504.000	.000	.000	LREF	4.7400	INCHES
(RH102N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	YAV	504.000	15.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	RCS OFF	.000	-20.000	.000	XMRP	7.3000	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N52	RCS OFF	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51	RCS OFF	.000	15.000	.000	ZMRP	.9010	INCHES
						SCALE	.0100	SCALE

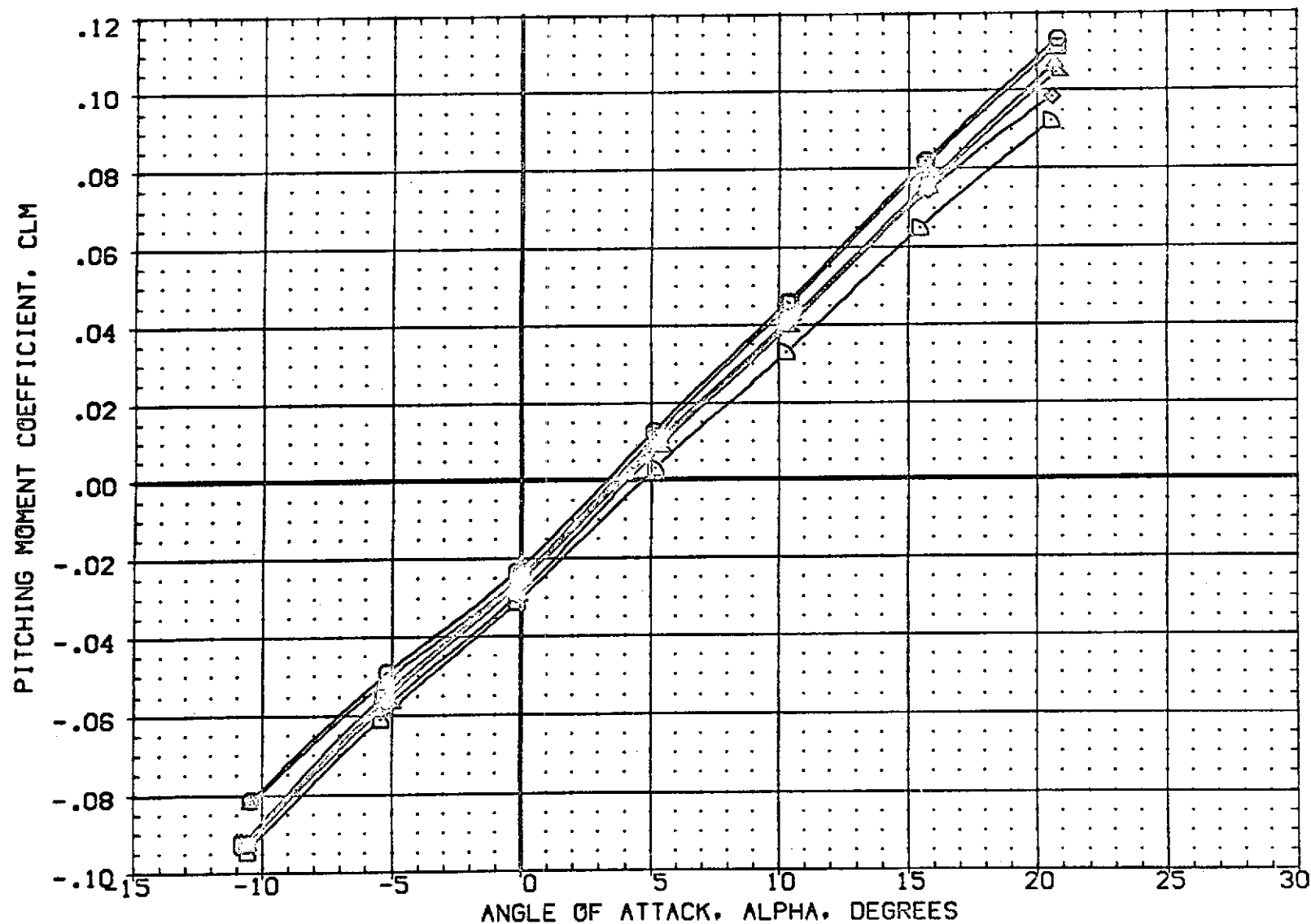


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	YAW LH	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION
(R4116N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	YAW LH	504.000	-20.000	.000	.000	SREF 39.7300 SQ. IN.
(R4116N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	YAW LH	504.000	.000	.000	.000	LREF 4.7400 INCHES
(R4102N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	YAW	504.000	15.000	.000	.000	BREF 9.3370 INCHES
(R4103F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	RCS OFF	.000	-20.000	.000	.000	XGRP 7.3300 INCHES
(R4102F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2	RCS OFF	.000	.000	.000	.000	YGRP .0000 INCHES
(R4101F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	RCS OFF	.000	15.000	.000	.000	ZGRP .9510 INCHES
						SCALE	.0100 SCALE

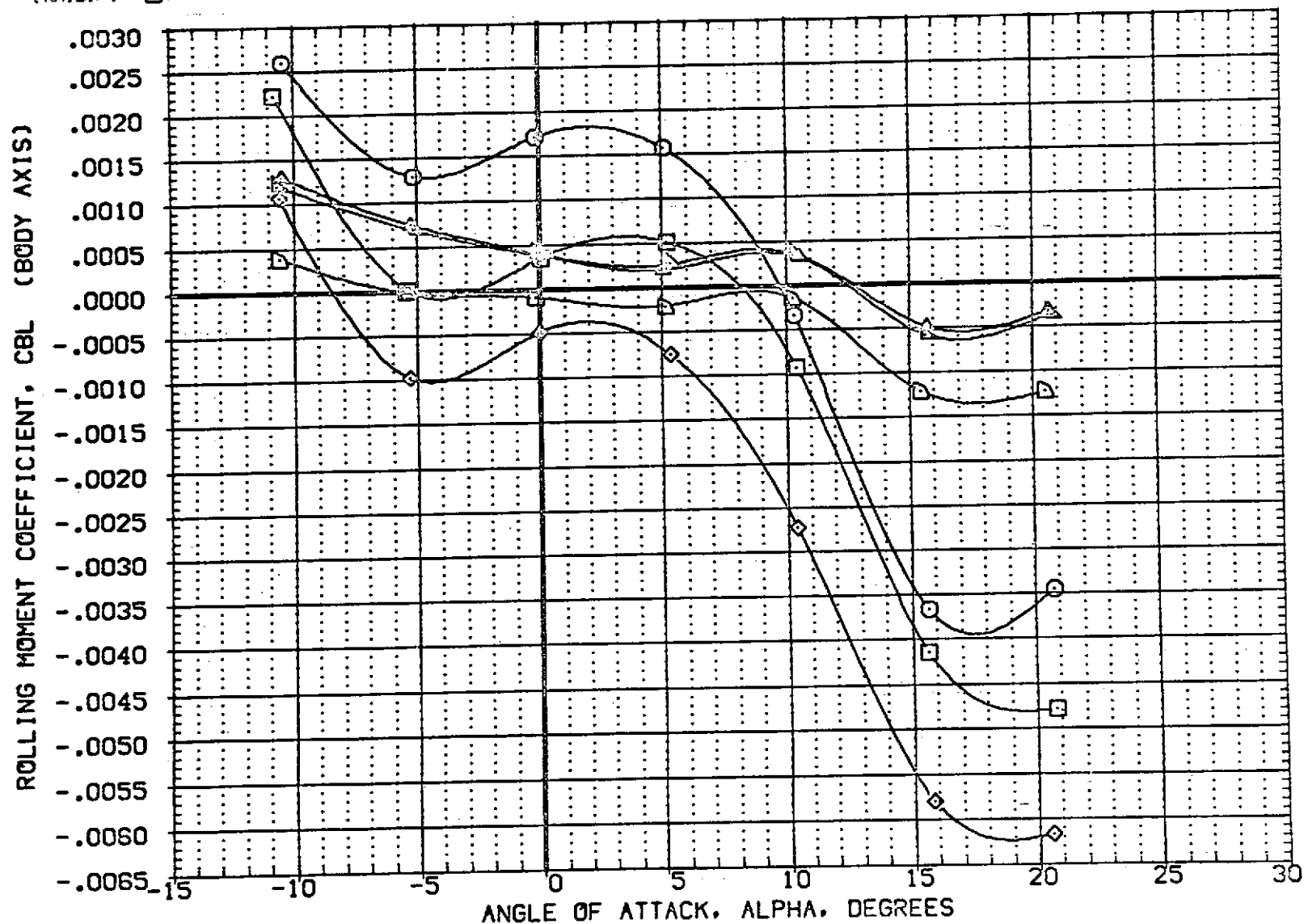


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION		
(RH116N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW LH	504.000	-20.000	.000	.000	SREF	38.7260	50. IN.
(RH116N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW LH	504.000	.000	.000	.000	LREF	4.7400	INCHES
(RH102N)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 YAW	504.000	15.000	.000	.000	BREF	9.3370	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 RCS OFF	.000	-20.000	.000	.000	XREF	7.3000	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)N52 RCS OFF	.000	.000	.000	.000	YREF	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (0 T)N51 RCS OFF	.000	15.000	.000	.000	ZREF	.0000	INCHES
						SCALE	.0100	SCALE

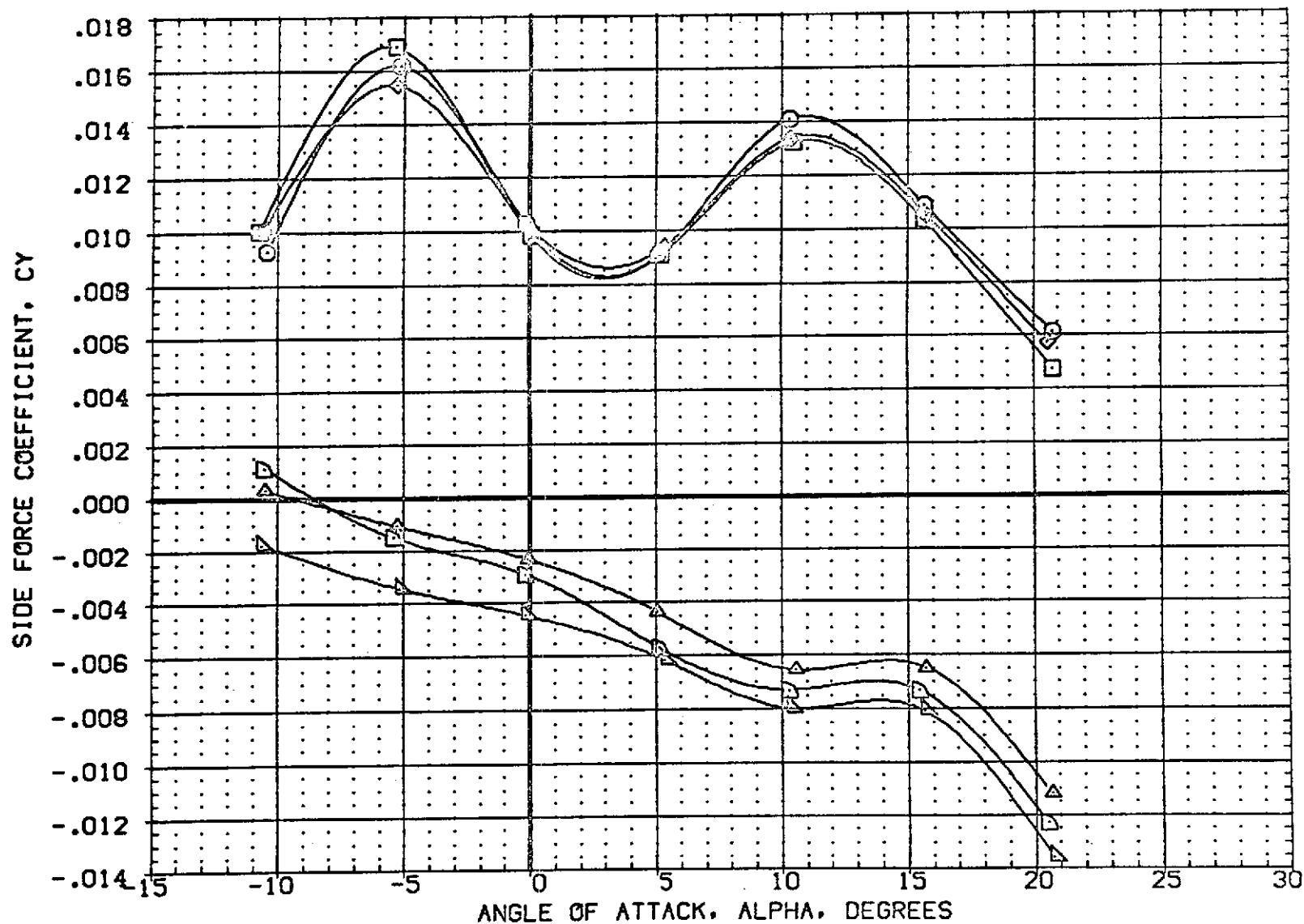


FIG 20 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 7 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1017)	1A-60 CFHT108 MODEL 32-0T (0 T)N51 YAW LH	179.000	-20.000	.000	.000	SREF	38.7380 SQ. IN.
(CH1015)	1A-60 CFHT108 MODEL 32-0T (0 T)N51 YAW LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	1A-60 CFHT103 MODEL 32-0T (0 T)N51 YAW	179.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.5880 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9840 INCHES
						SCALE	.0100 SCALE

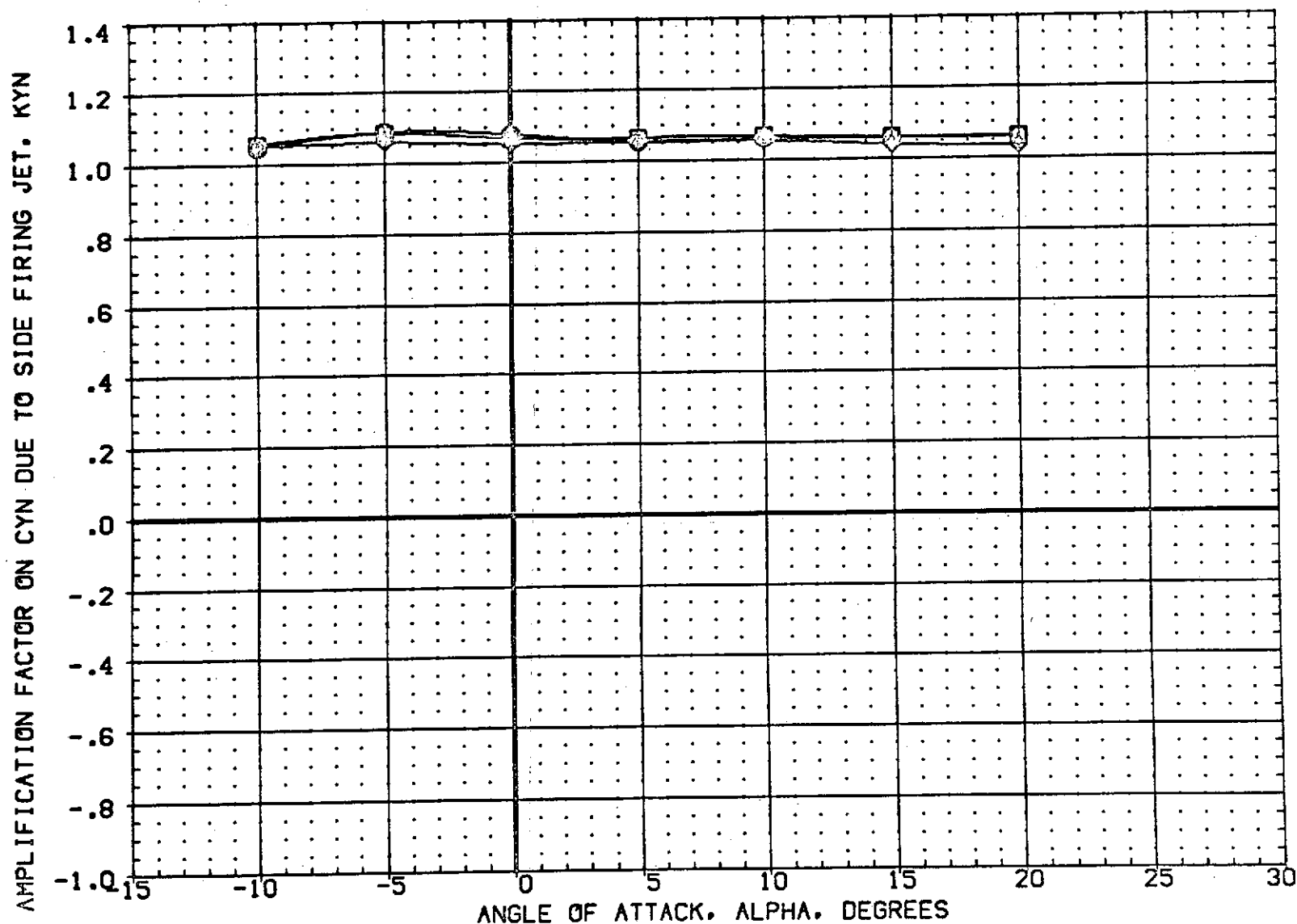


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1017)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1 YAW LH	179.000	-20.000	.000	.000	SREF	39.7300 SQ. IN.
(CH1015)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1 YAW LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1 YAW	179.000	15.000	.000	.000	BREF	9.3670 INCHES
						XREF	7.3560 INCHES
						YREF	.0000 INCHES
						ZREF	.9940 INCHES
						SCALE	.0100 SCALE

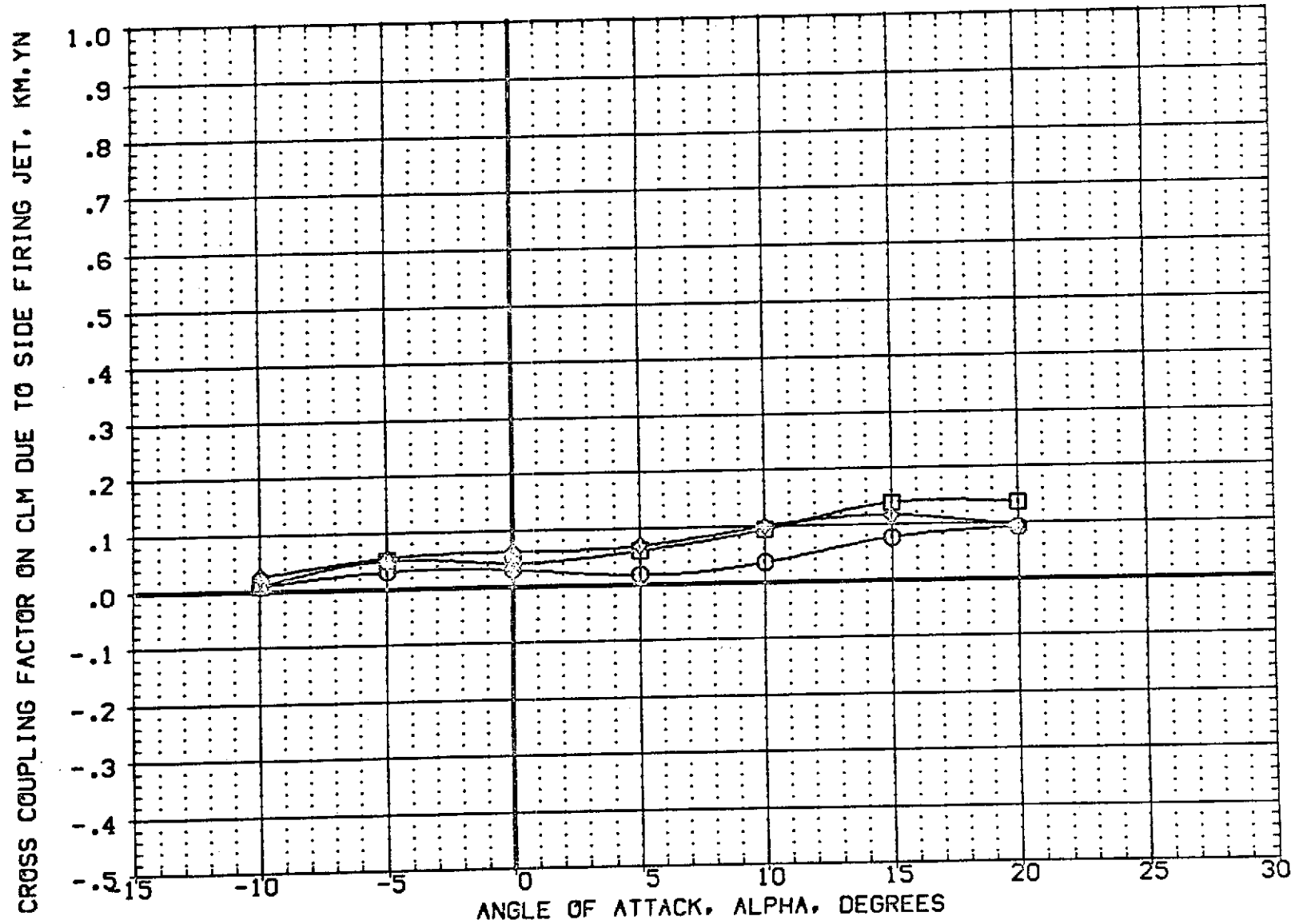


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1017)	IA-60 CFHT103 MODEL 32-OT (0 T) NS1 YAW LH	179.000	-20.000	.000	.000	SREF	39.7350 SQ. IN.
(CH1015)	IA-60 CFHT103 MODEL 32-OT (0 T) NS1 YAW LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	IA-60 CFHT103 MODEL 32-OT (0 T) NS1 YAW	179.000	15.000	.000	.000	BREF	9.2570 INCHES
						XMRP	7.3820 INCHES
						YMRP	.0000 INCHES
						ZMRP	.5940 INCHES
						SCALE	.0100 SCALE

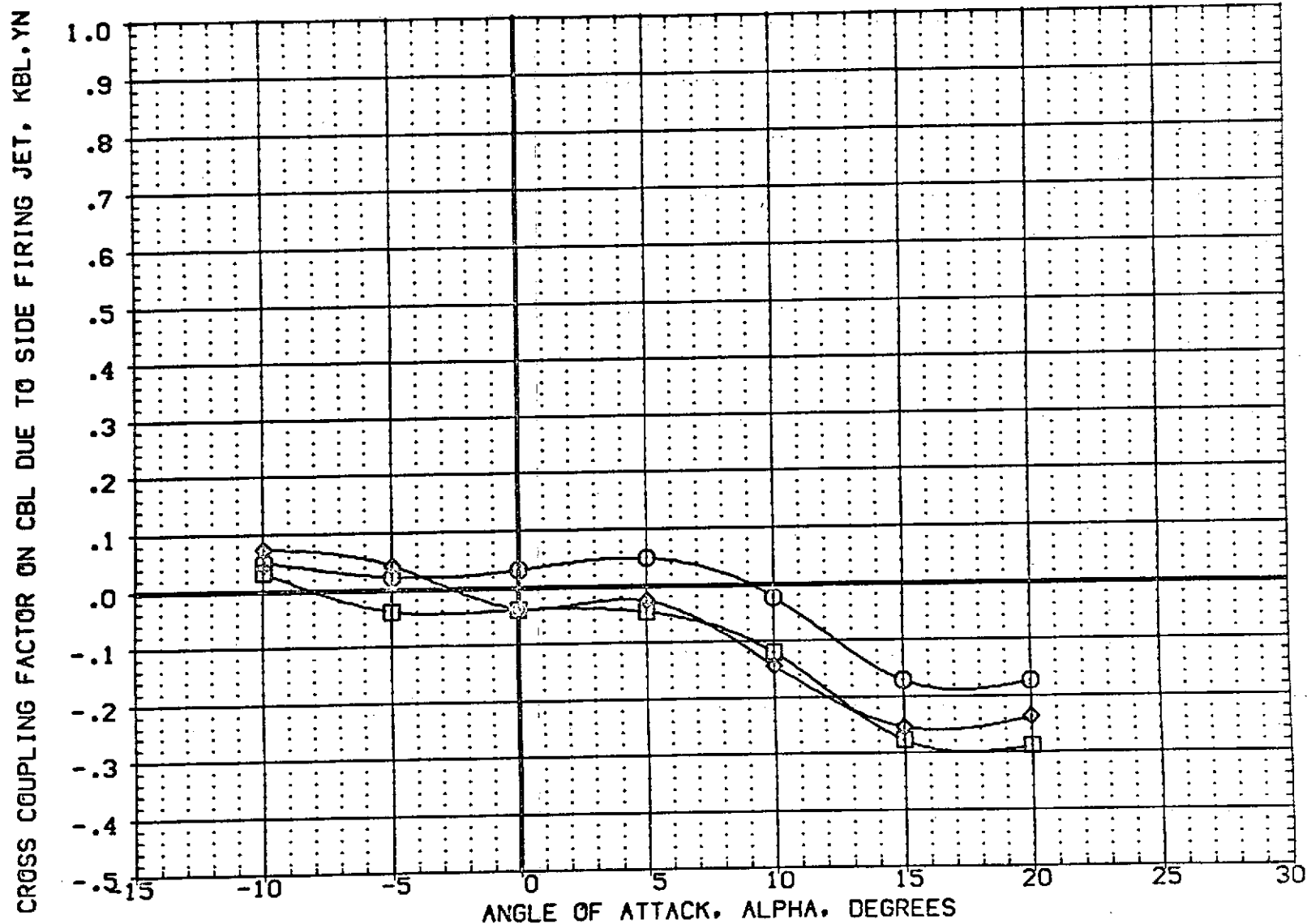


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1017)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW LH	179.000	-20.000	.000	.000	SREF	33.7360 SQ. IN.
(CH1015)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW LH	179.000	.000	.000	.000	LREF	4.7400 INCHES
(CH1001)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 YAW	179.000	15.000	.000	.000	BREF	9.3570 INCHES
						ANP	7.5000 INCHES
						YNP	.0000 INCHES
						ZNP	.0010 INCHES
						SCALE	.0100 SCALE

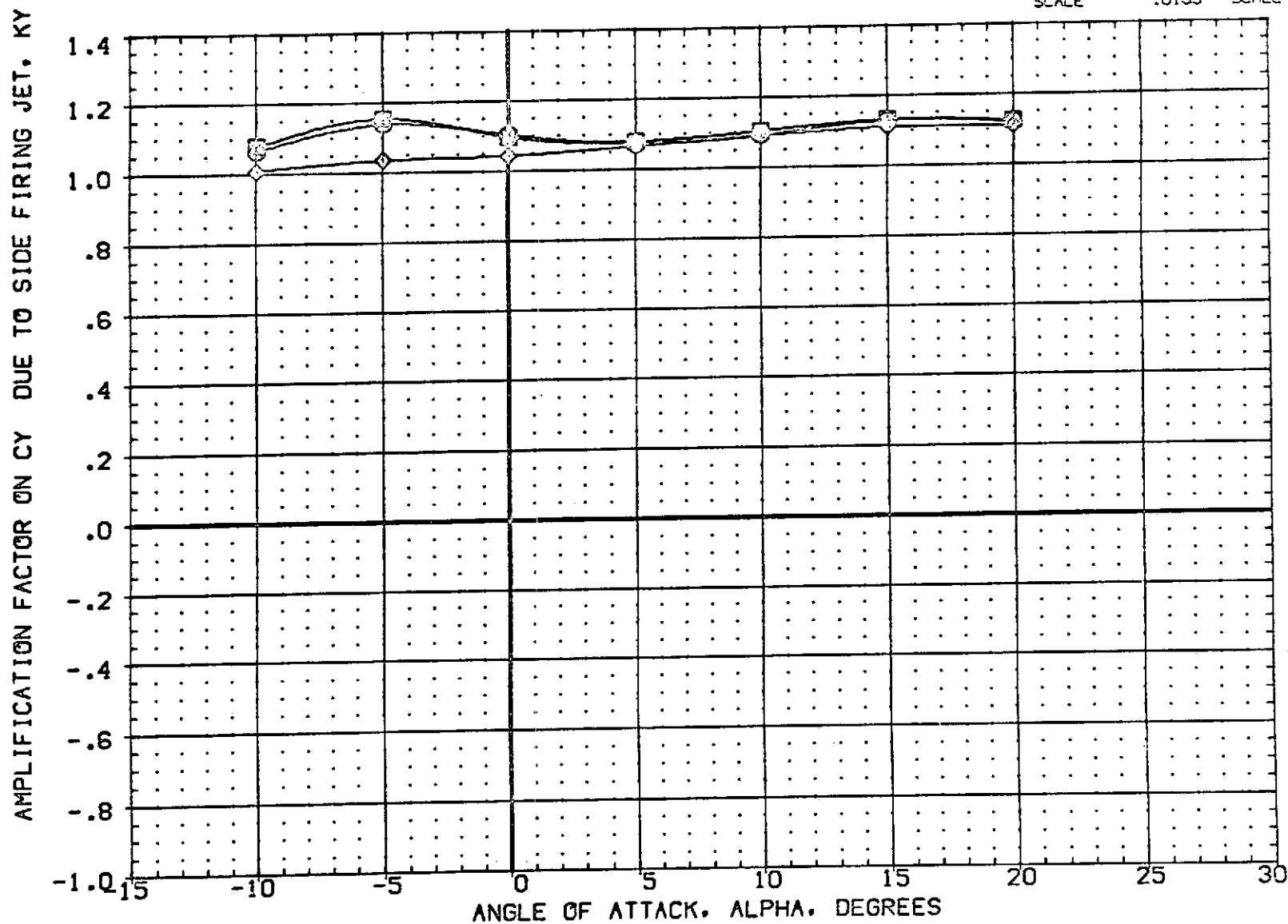


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	YAW LH	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1017)	IA-60 CFHT103 MODEL 32-0T (0 T)NSI	YAW LH	179.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1015)	IA-60 CFHT103 MODEL 32-0T (0 T)NSI	YAW LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	IA-60 CFHT103 MODEL 32-0T (0 T)NSI	YAW	179.000	15.000	.000	.000	BREF	9.3570 INCHES
							XMRP	7.3290 INCHES
							YMRP	.0000 INCHES
							ZMRP	.9940 INCHES
							SCALE	.0100 SCALE

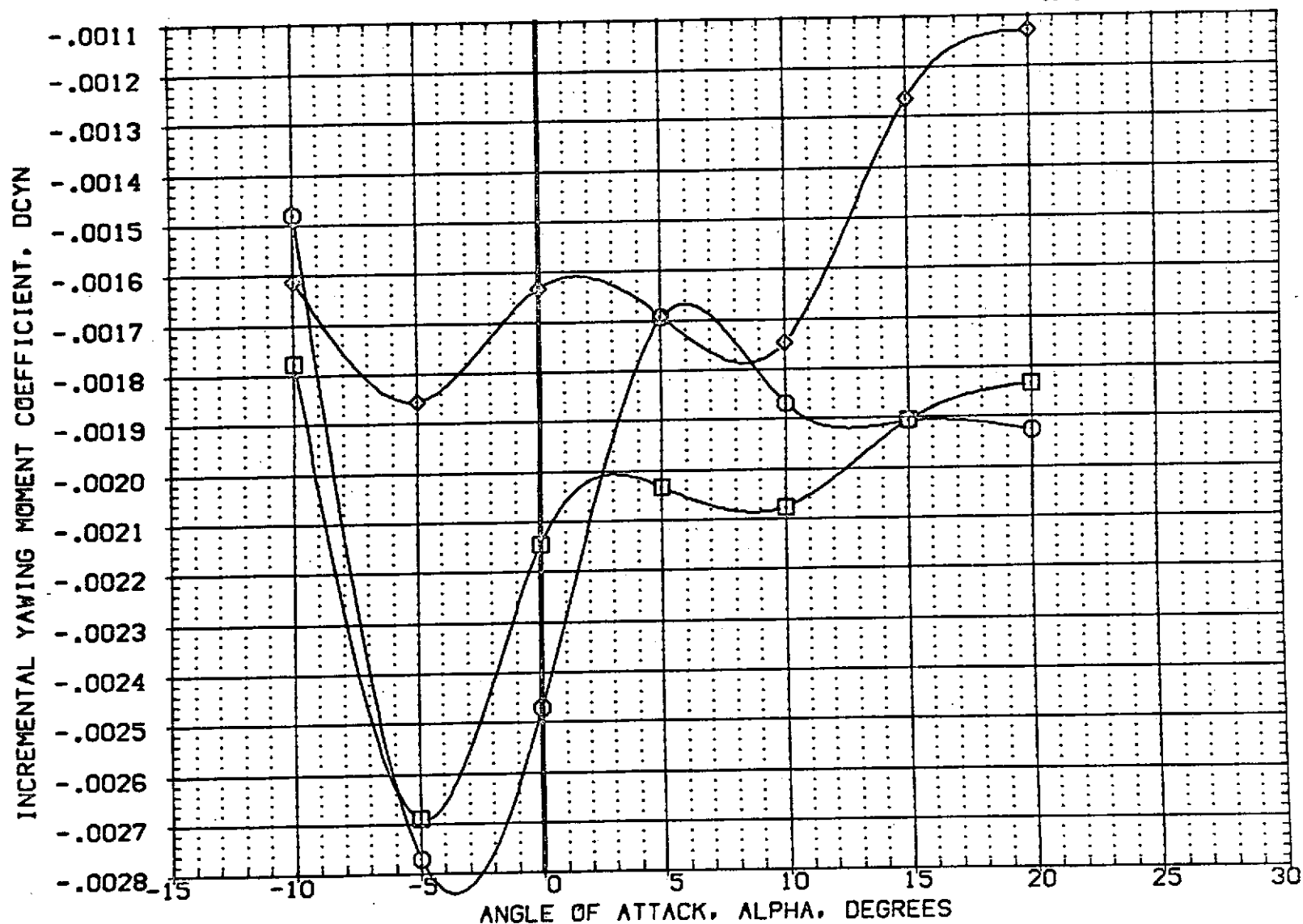


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1017)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N51 YAV LH	179.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1015)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N51 YAV LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	IA-60 CFHT108 MODEL 32-0T (0 TJ)N51 YAV	179.000	15.000	.000	.000	BREF	9.2670 INCHES
						XREF	7.3380 INCHES
						YREF	.0000 INCHES
						ZREF	.9910 INCHES
						SCALE	.0100 SCALE

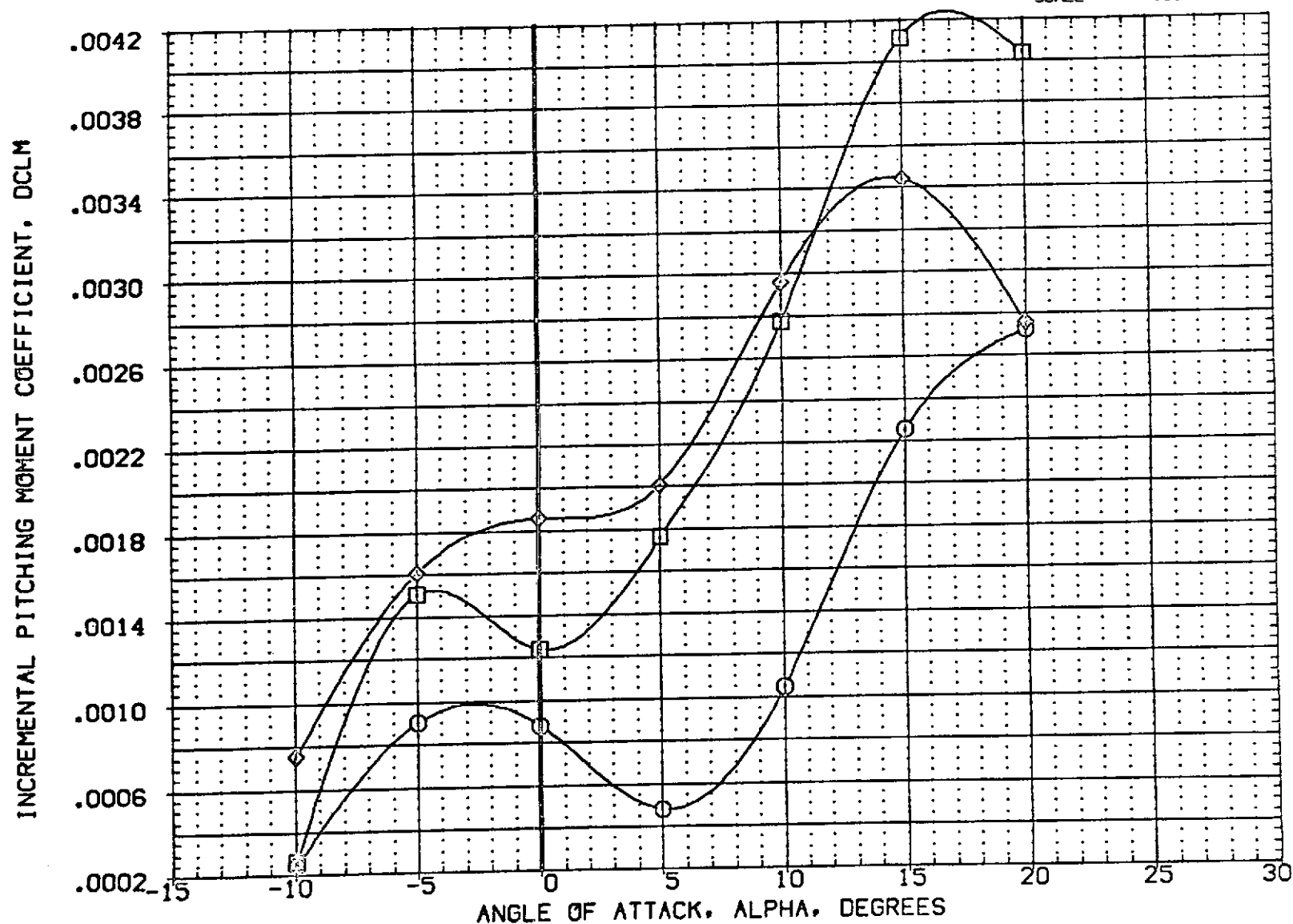


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1017)	IA-60 CFHT108 MODEL 32-OT (0 T)NS1 YAW LH	179.000	-20.000	.000	.000	SREF	38.7350	SQ. IN.
(CH1015)	IA-60 CFHT108 MODEL 32-OT (0 T)NS1 YAW LH	179.000	.000	.000	.000	LREF	4.7480	INCHES
(CH1001)	IA-60 CFHT108 MODEL 32-OT (0 T)NS1 YAW	179.000	15.000	.000	.000	BREF	9.3670	INCHES
						XMRP	7.3680	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9340	INCHES
						SCALE	.0100	SCALE

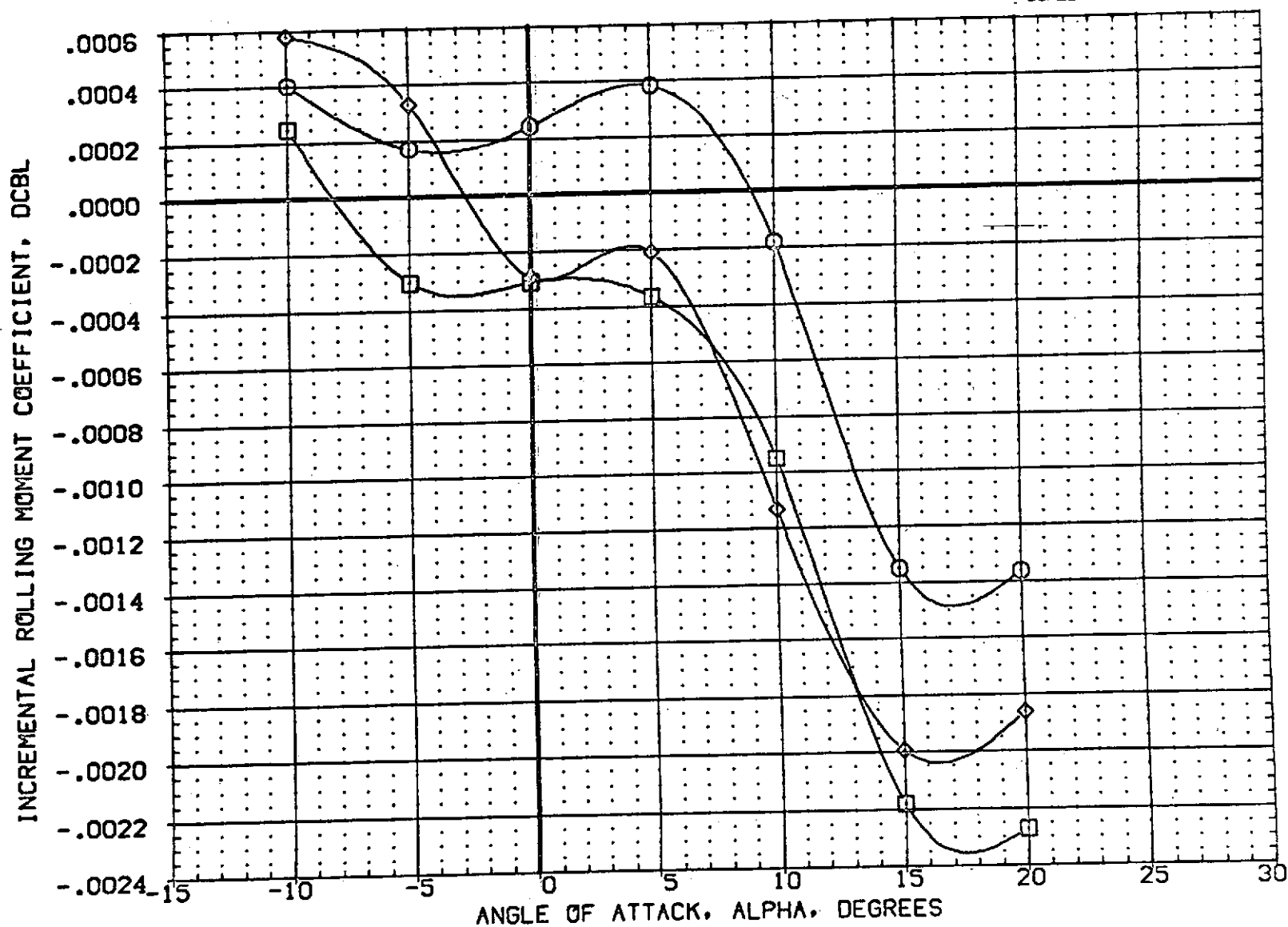


FIG 21 EFFECT OF ELEVON DEFLECTION ON NS1 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION	
(CH1017)	1A-60 CFHT108 MODEL 32-0T (0 T)NS1 YAW LH	179.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1015)	1A-60 CFHT108 MODEL 32-0T (0 T)NS1 YAW LH	179.000	.000	.000	.000	LREF	4.7480 INCHES
(CH1001)	1A-60 CFHT108 MODEL 32-0T (0 T)NS1 YAW	179.000	15.000	.000	.000	BREF	9.3570 INCHES
						XMRP	7.3330 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9940 INCHES
						SCALE	.0100 SCALE

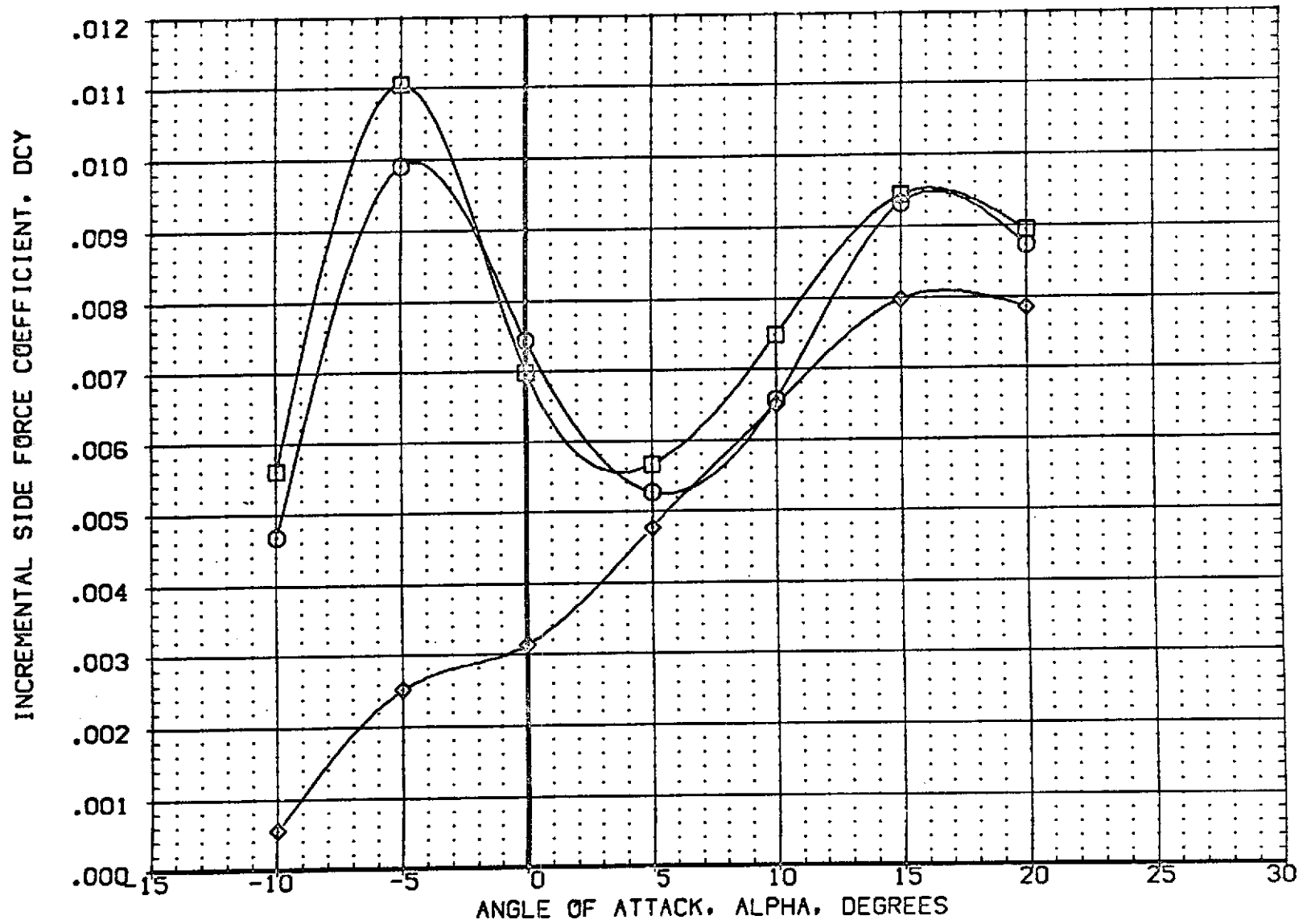


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	YAW LH	YAW LH	YAV	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION
(RH117N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	YAV LH	YAV LH	YAV	179.000	-20.000	.000	.000	SREF 38.7350 SQ. IN.
(RH115N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	YAV LH	YAV LH	YAV	179.000	.000	.000	.000	LREF 4.7480 INCHES
(RH101N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	YAV	YAV	YAV	179.000	15.000	.000	.000	BREF 9.3670 INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	RCS OFF	RCS OFF	RCS OFF	.000	-20.000	.000	.000	YMRP 7.3530 INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS2	RCS OFF	RCS OFF	RCS OFF	.000	.000	.000	.000	YMRP .0000 INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	RCS OFF	RCS OFF	RCS OFF	.000	15.000	.000	.000	ZMRP .9340 INCHES
									SCALE .0100 SCALE

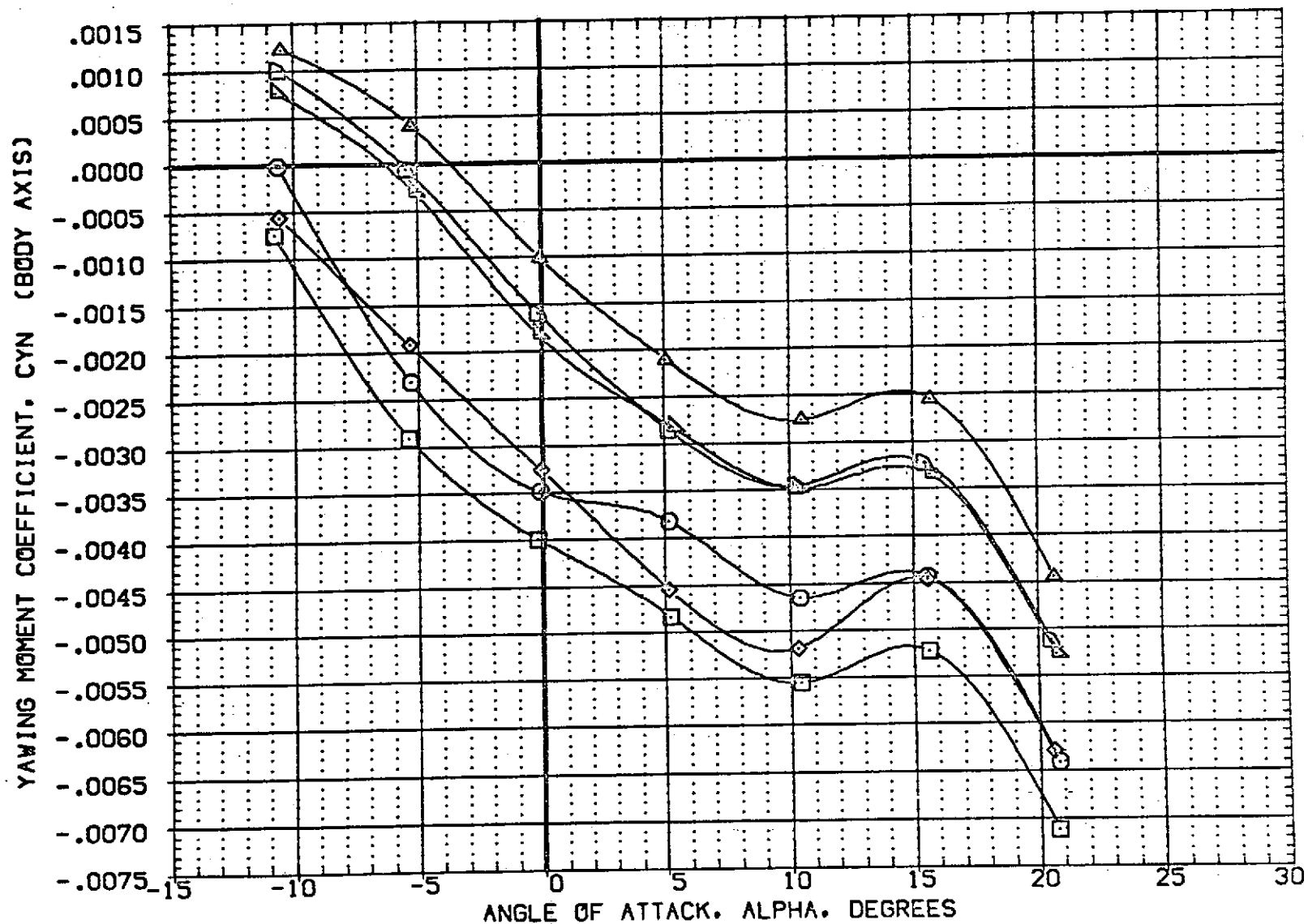


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION
(R4117N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	179.000	-20.000	.000	.000	SREF 39.7360 SQ.IN.
(R4115N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	179.000	.000	.000	.000	LREF 4.7480 INCHES
(R4101N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	179.000	15.000	.000	.000	BREF 9.3670 INCHES
(R4103F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	.000	-20.000	.000	.000	XMRP 7.3590 INCHES
(R4102F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2	.000	.000	.000	.000	YMRP .0000 INCHES
(R4101F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1	.000	15.000	.000	.000	ZMRP .9940 INCHES
						SCALE .0100 SCALE

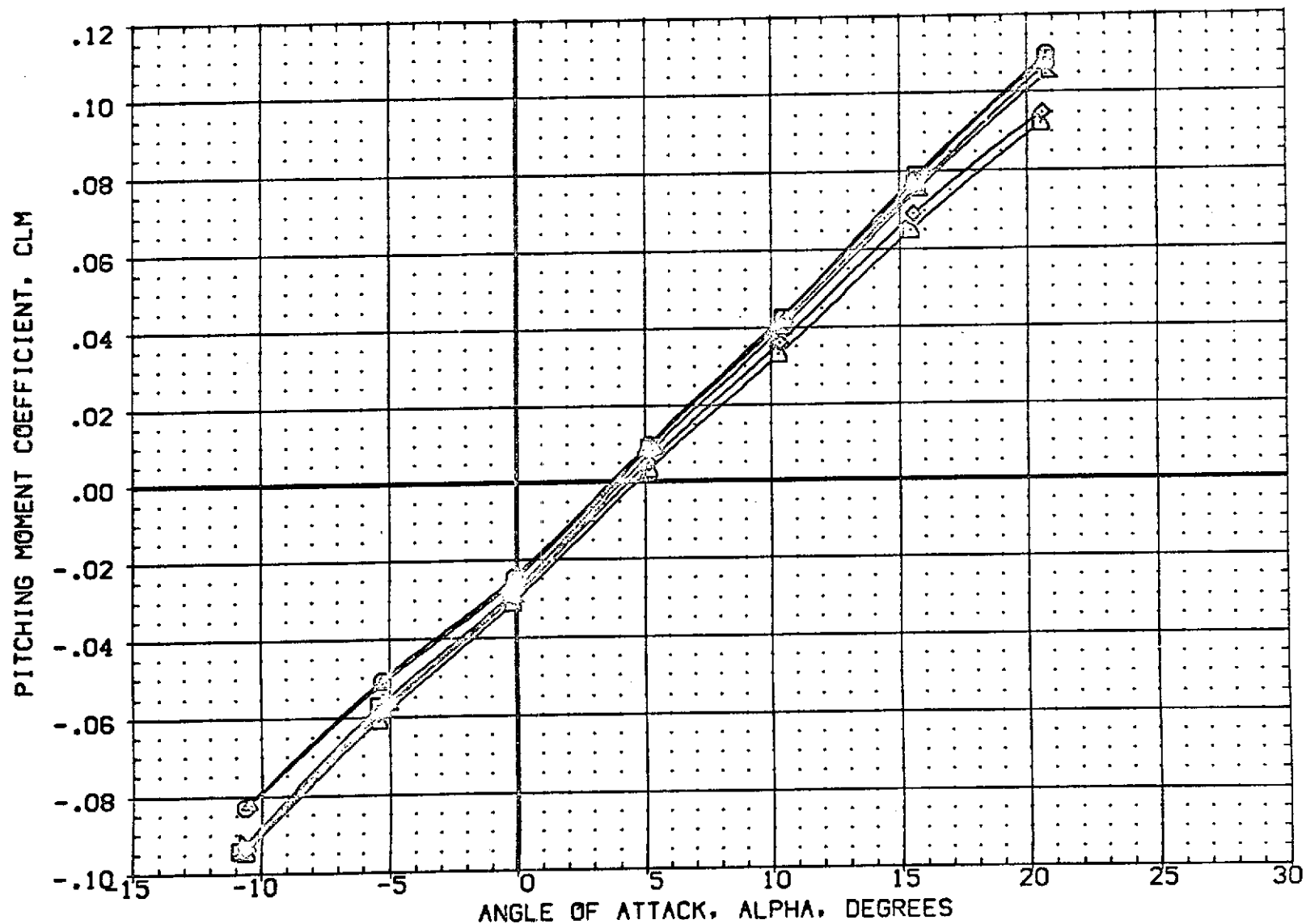


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(R4117N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	179.000	-20.000	.000	.000	SREF	38.7360	SQ. IN.
(R4115N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	179.000	.000	.000	.000	LREF	4.7460	INCHES
(R4101N)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	179.000	15.000	.000	.000	BREF	9.3570	INCHES
(R4102F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	.000	-20.000	.000	.000	XMRP	7.3660	INCHES
(R4102F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	.000	.000	.000	.000	YMRP	.0000	INCHES
(R4101F)	IA-60 CFHT103 MODEL 32-OT (0 T)NS1	.000	15.000	.000	.000	ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

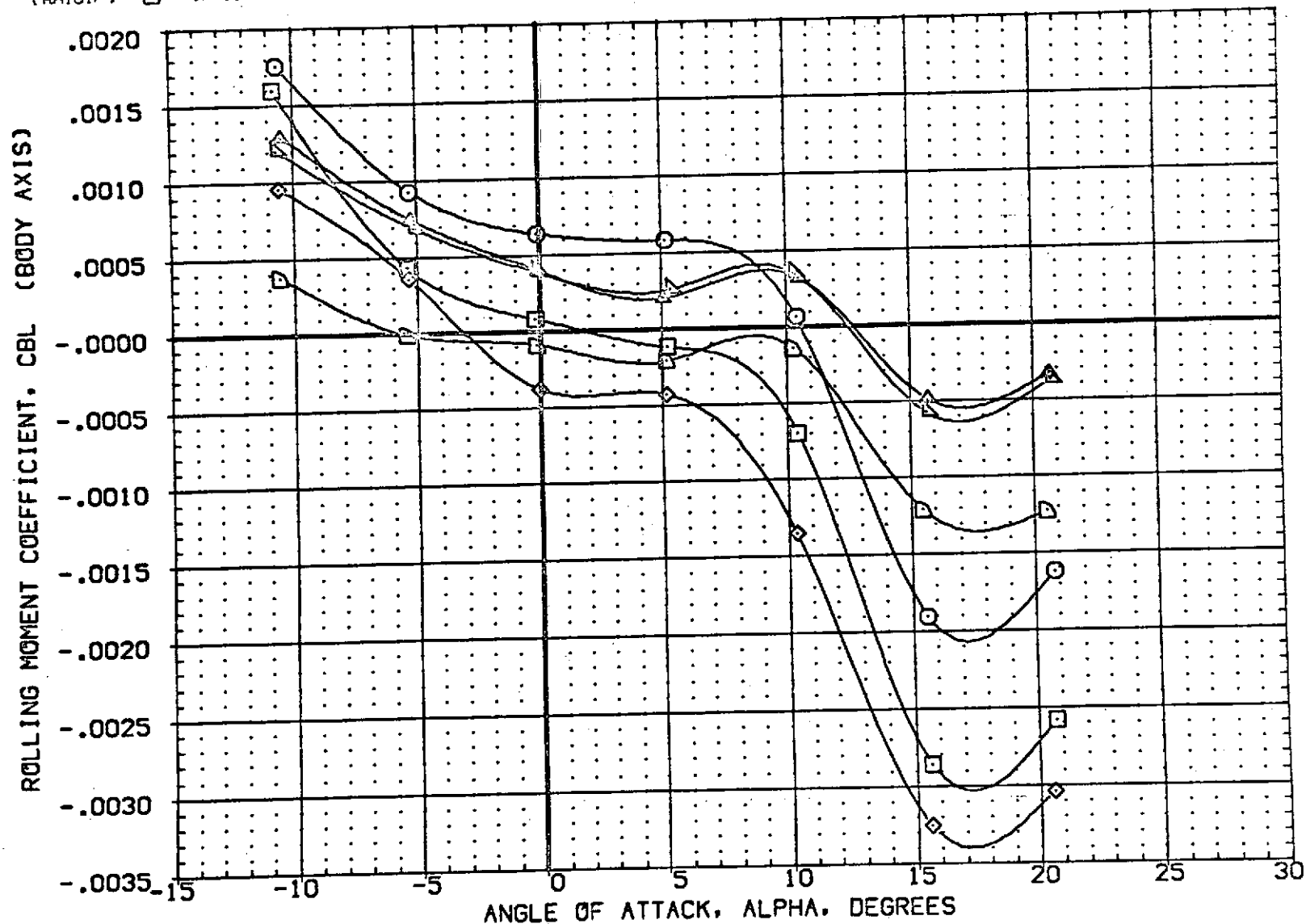


FIG 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH117N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV LH	179.000	-20.000	.000	.000	SREF	33.7360	50. IN.
(RH115N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV LH	179.000	.000	.000	.000	LREF	4.7430	INCHES
(RH101N)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 YAV	179.000	15.000	.000	.000	BREF	9.3570	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	-20.000	.000	.000	XMRP	7.3390	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS2 RCS OFF	.000	.000	.000	.000	YMRP	.0000	INCHES
(RH101F)	IA-60 CFHT103 MODEL 32-0T (0 T)NS1 RCS OFF	.000	15.000	.000	.000	ZMRP	.9840	INCHES
						SCALE	.0100	SCALE

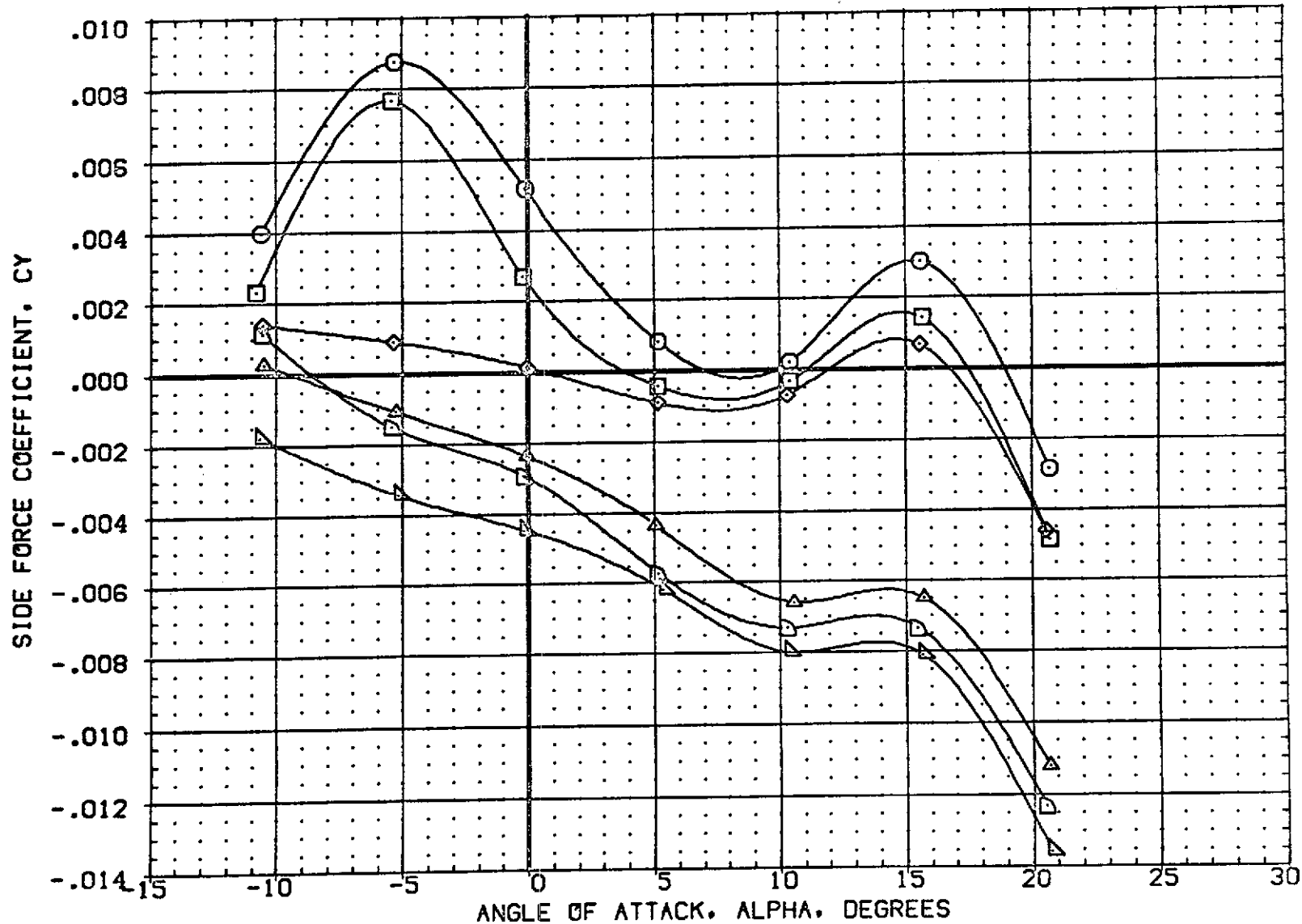


FIG. 21 EFFECT OF ELEVON DEFLECTION ON N51 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1022)	IA-60 CFHT108 MODEL 32-0T (O T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1014)	IA-60 CFHT108 MODEL 32-0T (O T)N49 PITCH DWN LH	446.000	.000	.000	.000	LREF	4.7460 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3280 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9340 INCHES
						SCALE	.0100 SCALE

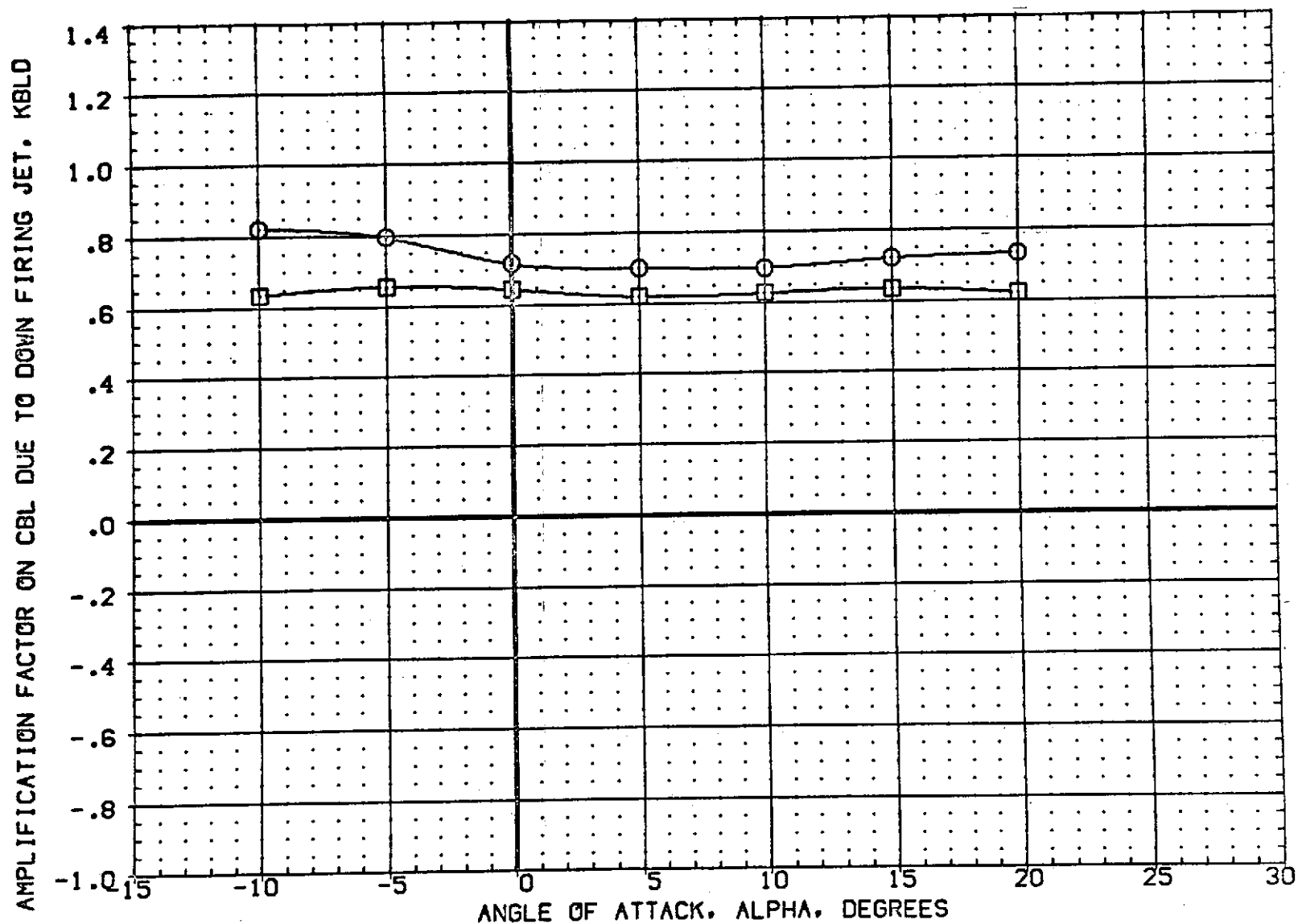


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1022)	□ 1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	33.7390 SQ. IN.
(CH1014)	○ 1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DWN LH	446.000	.000	.000	.000	LREF	4.7490 INCHES
						BREF	9.3570 INCHES
						XMAP	7.3590 INCHES
						YMAP	.0000 INCHES
						ZMAP	.9040 INCHES
						SCALE	.0100 SCALE

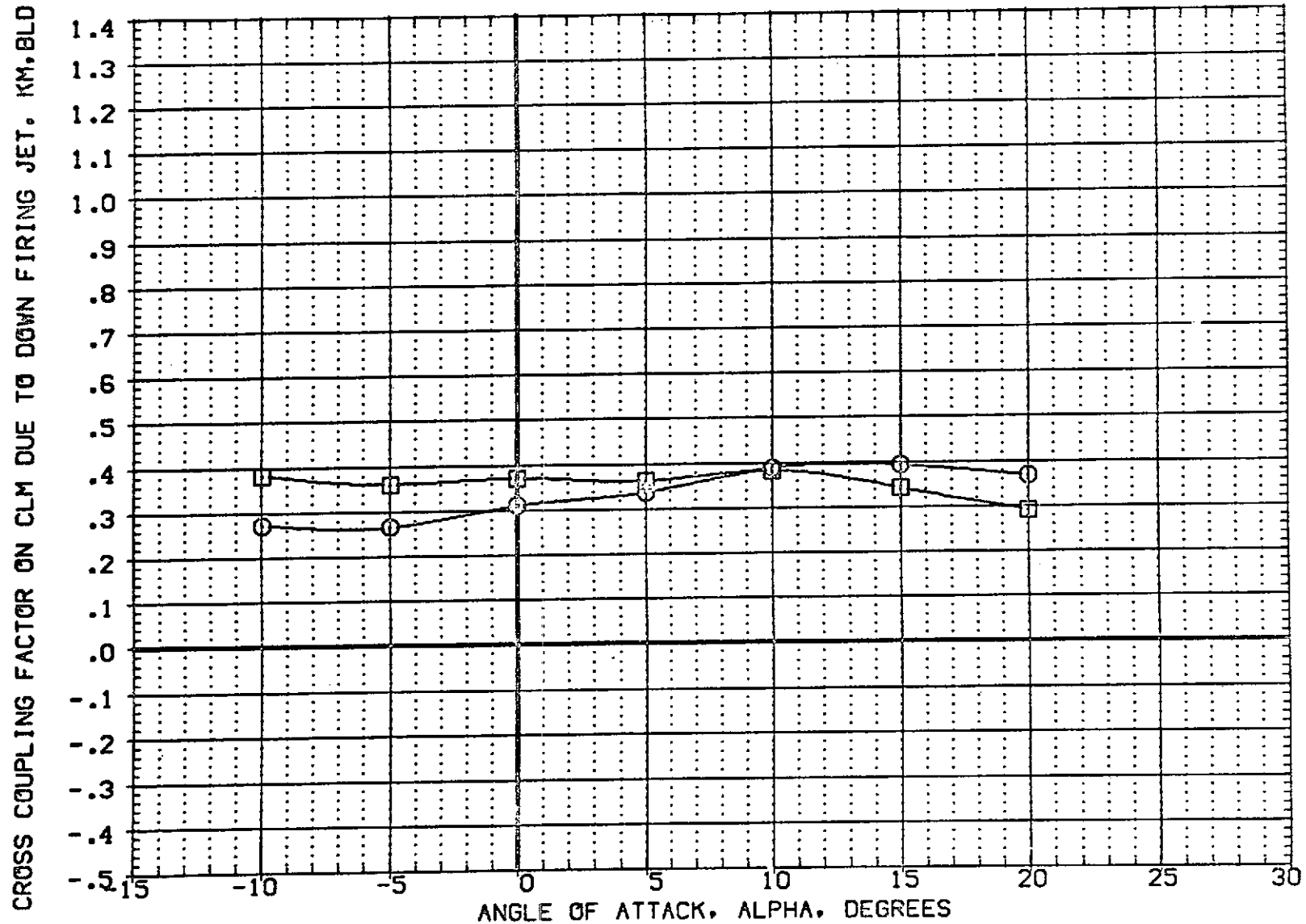


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1022)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(CH1014)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DYN LH	446.000	.000	.000	.000	LREF	4.7480	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3360	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9310	INCHES
						SCALE	.0100	SCALE

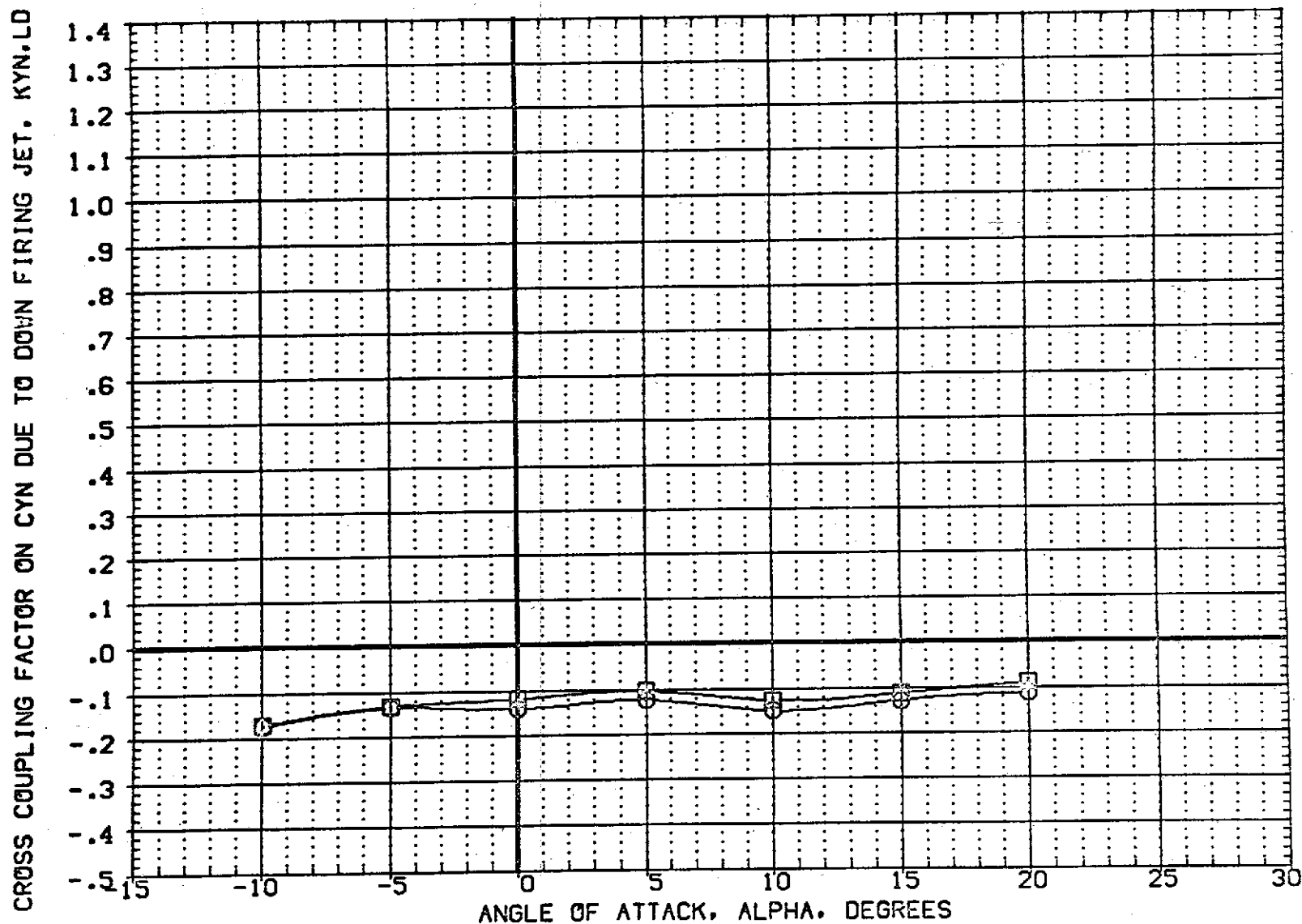


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	ATLRON	SPDBRK	REFERENCE INFORMATION	
(CH1022)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	29.7260 SQ. IN.
(CH1014)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DYN LH	446.000	.000	.000	.000	LREF	4.7450 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3600 INCHES
						YMRP	.0000 INCHES
						ZMRP	.9040 INCHES
						SCALE	.0100 SCALE

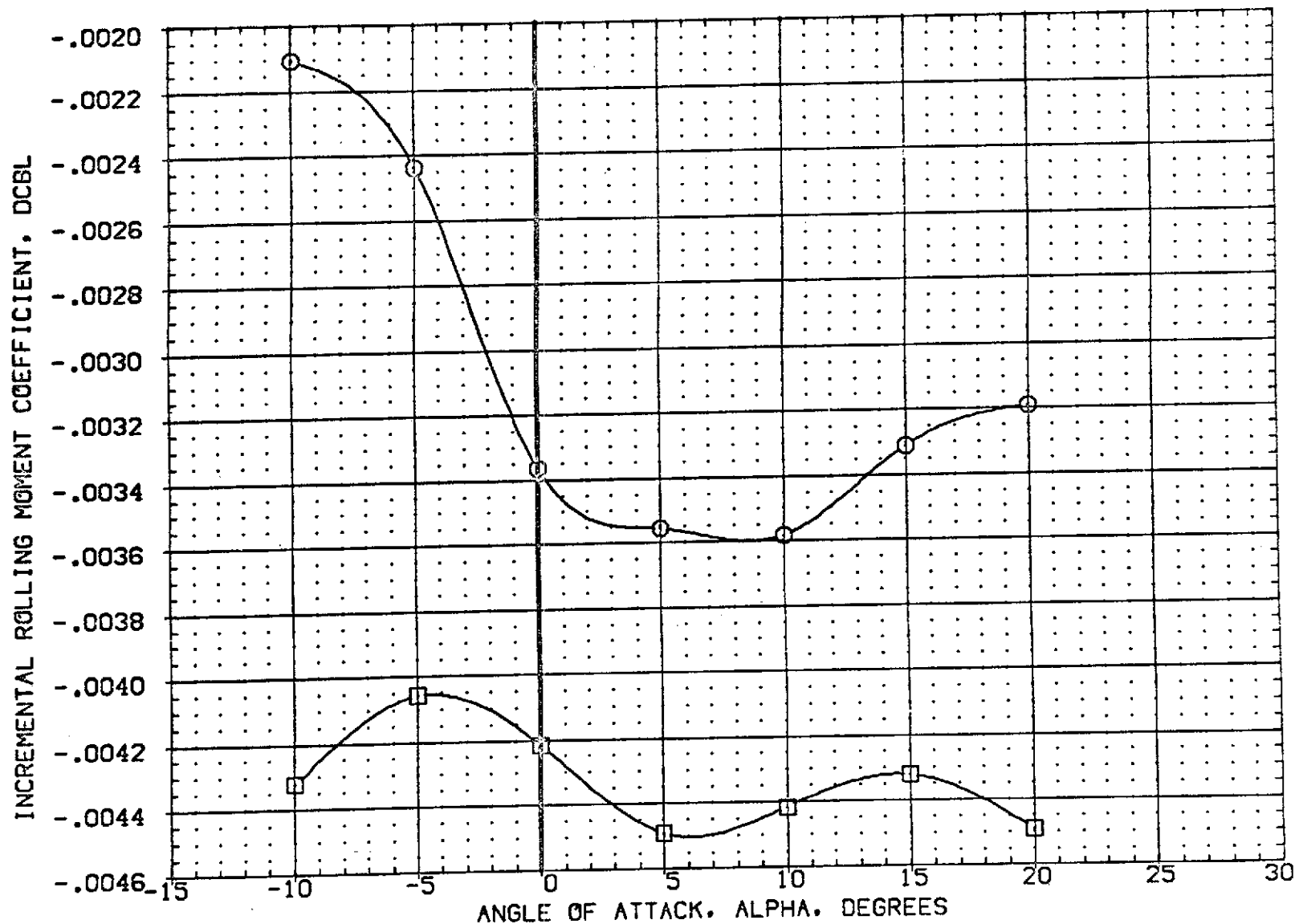


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION	
(CH1022)	1A-60 CFHT108 MODEL 32-OT (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1014)	1A-60 CFHT108 MODEL 32-OT (0 T)N49 PITCH DWN LH	446.000	.000	.000	.000	LREF	4.7480 INCHES
						BREF	9.3570 INCHES
						XMCP	7.3800 INCHES
						YMCP	.0000 INCHES
						ZMCP	.9940 INCHES
						SCALE	.0100 SCALE

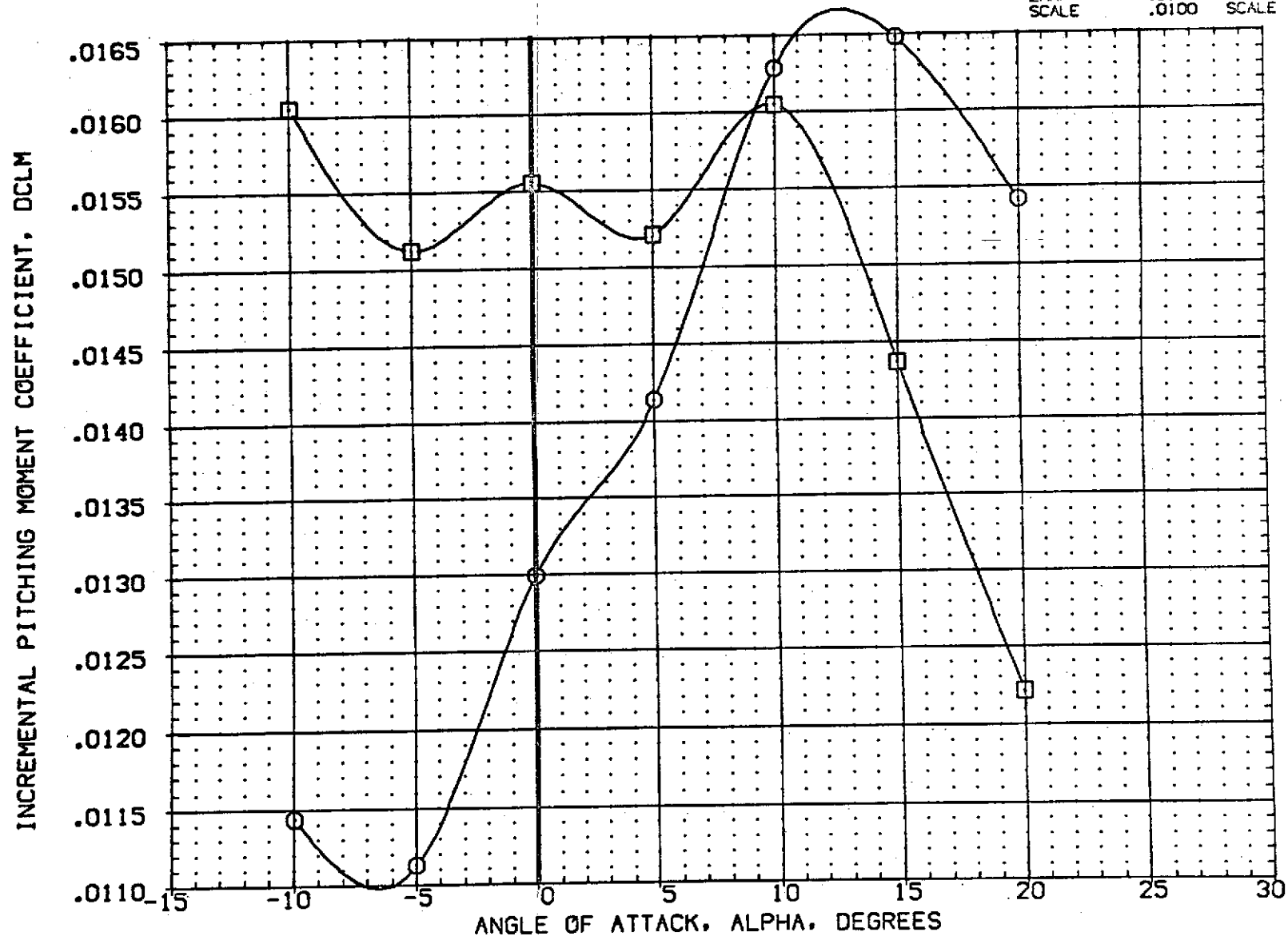


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1022)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1014)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DWN LH	446.000	.000	.000	.000	LREF	4.7480 INCHES
						BREF	9.3570 INCHES
						XMRP	7.3880 INCHES
						YMRP	.0000 INCHES
						ZMRP	.8810 INCHES
						SCALE	.0100 SCALE

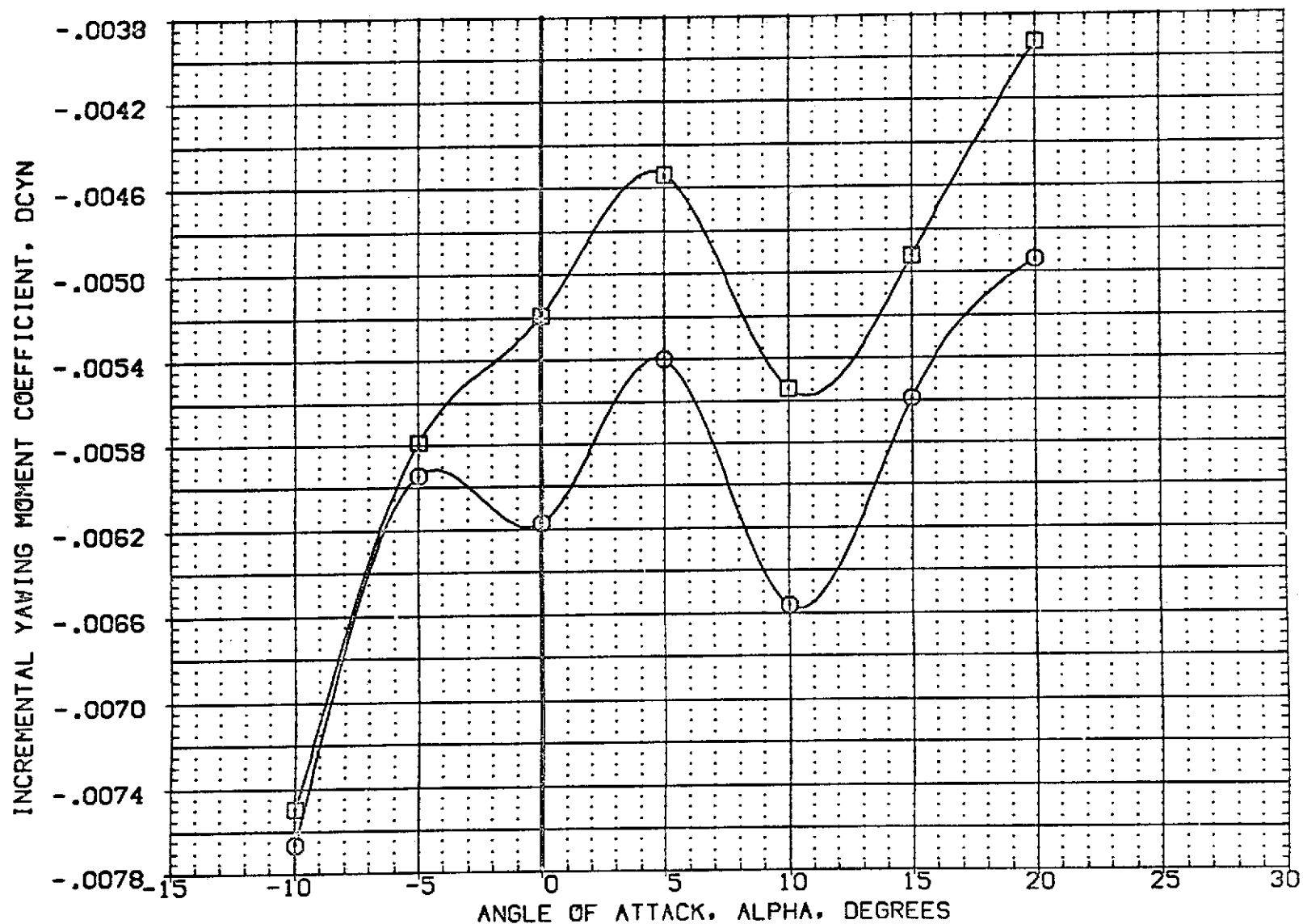


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(RH122N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	39.7360	50. IN.
(RH114N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	.000	.000	.000	LREF	4.7490	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	BREF	9.3670	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XMRP	7.3680	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

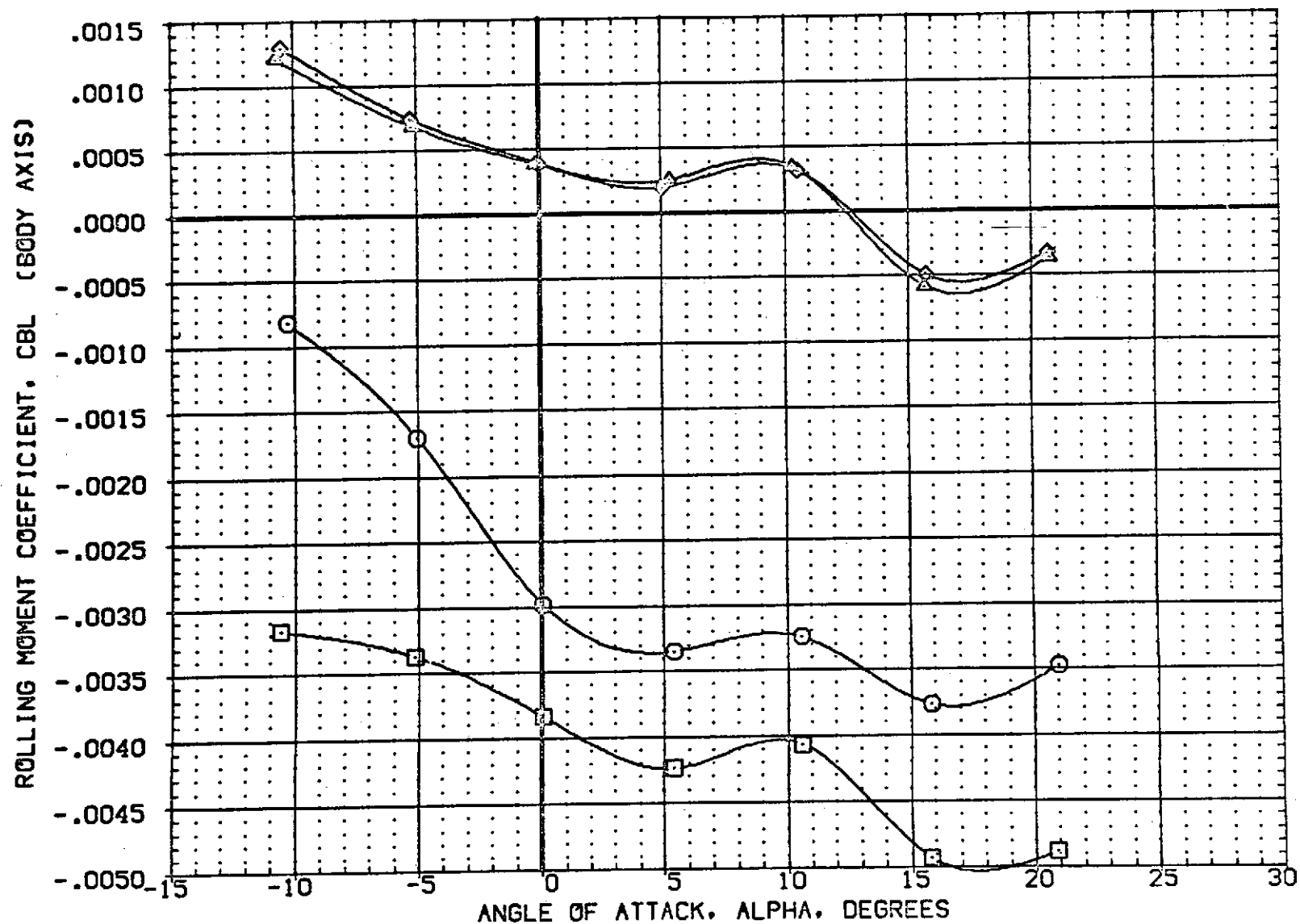


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(RH122N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	33.7350 SQ. IN.
(RH114N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DYN LH	446.000	.000	.000	.000	LREF	4.7400 INCHES
(RH103F)	1A-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	BREF	9.3570 INCHES
(RH102F)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XREF	7.3500 INCHES
						YREF	.0000 INCHES
						ZREF	.0000 INCHES
						SCALE	.0100 SCALE

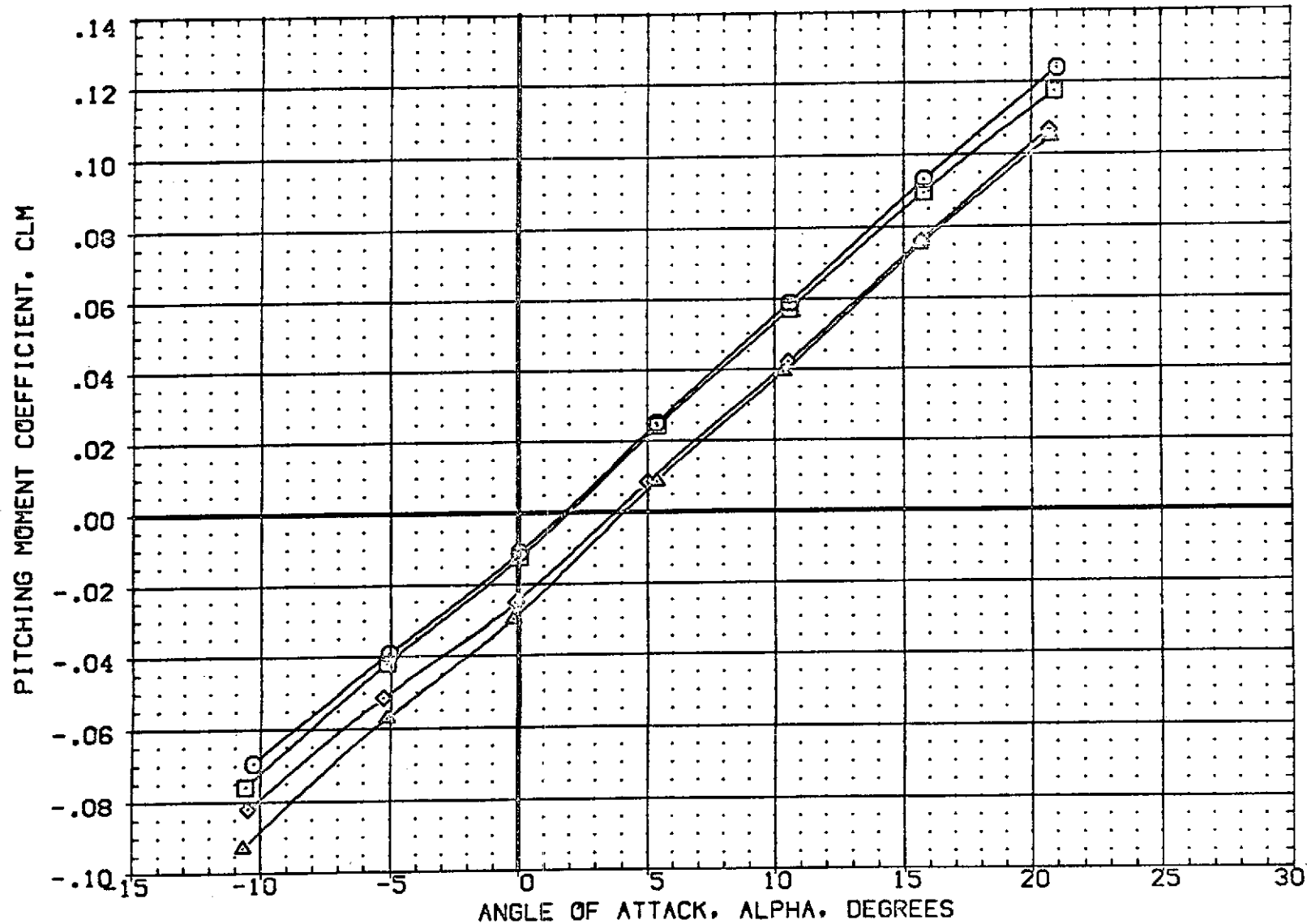


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILERON	SPDBRK	REFERENCE INFORMATION		
(R4122N)	1A-60 CFHT103 MODEL 32-0T (0 TJN49 PITCH DOWN LH	446.000	-20.000	.000	.000	SREF	33.7250	50. IN.
(R4114N)	1A-60 CFHT103 MODEL 32-0T (0 TJN49 PITCH DYN LH	446.000	.000	.000	.000	LREF	4.7400	INCHES
(R4103F)	1A-60 CFHT103 MODEL 32-0T (0 TJN51 RCS OFF	.000	-20.000	.000	.000	BREF	9.3570	INCHES
(R4102F)	1A-60 CFHT103 MODEL 32-0T (0 TJN52 RCS OFF	.000	.000	.000	.000	XGRP	7.3500	INCHES
						YGRP	.0000	INCHES
						ZGRP	.5910	INCHES
						SCALE	.0100	SCALE

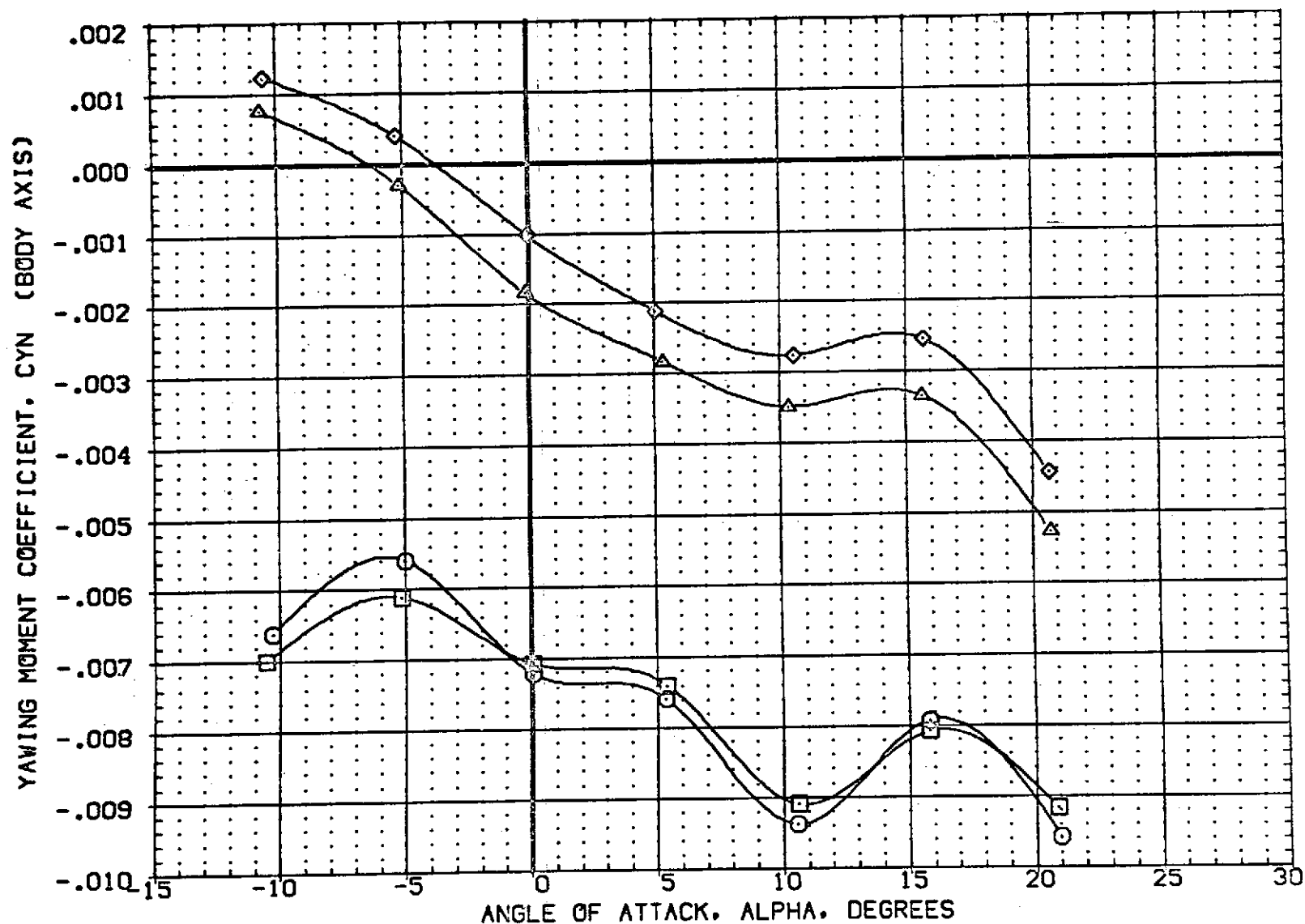


FIG 22 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 7 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(CH1021)	IA-60 CFHT108 MODEL 32-OT (0 T)N49 PITCH DOWN LH	158.000	-20.000	.000	.000	SREF	38.7350	50. IN.
(CH1013)	IA-60 CFHT103 MODEL 32-OT (0 T)N49 PITCH DWN LH	158.000	.000	.000	.000	LREF	4.7480	INCHES
						BREF	9.3570	INCHES
						XGRP	7.3500	INCHES
						YGRP	.0000	INCHES
						ZGRP	.9940	INCHES
						SCALE	.0100	SCALE

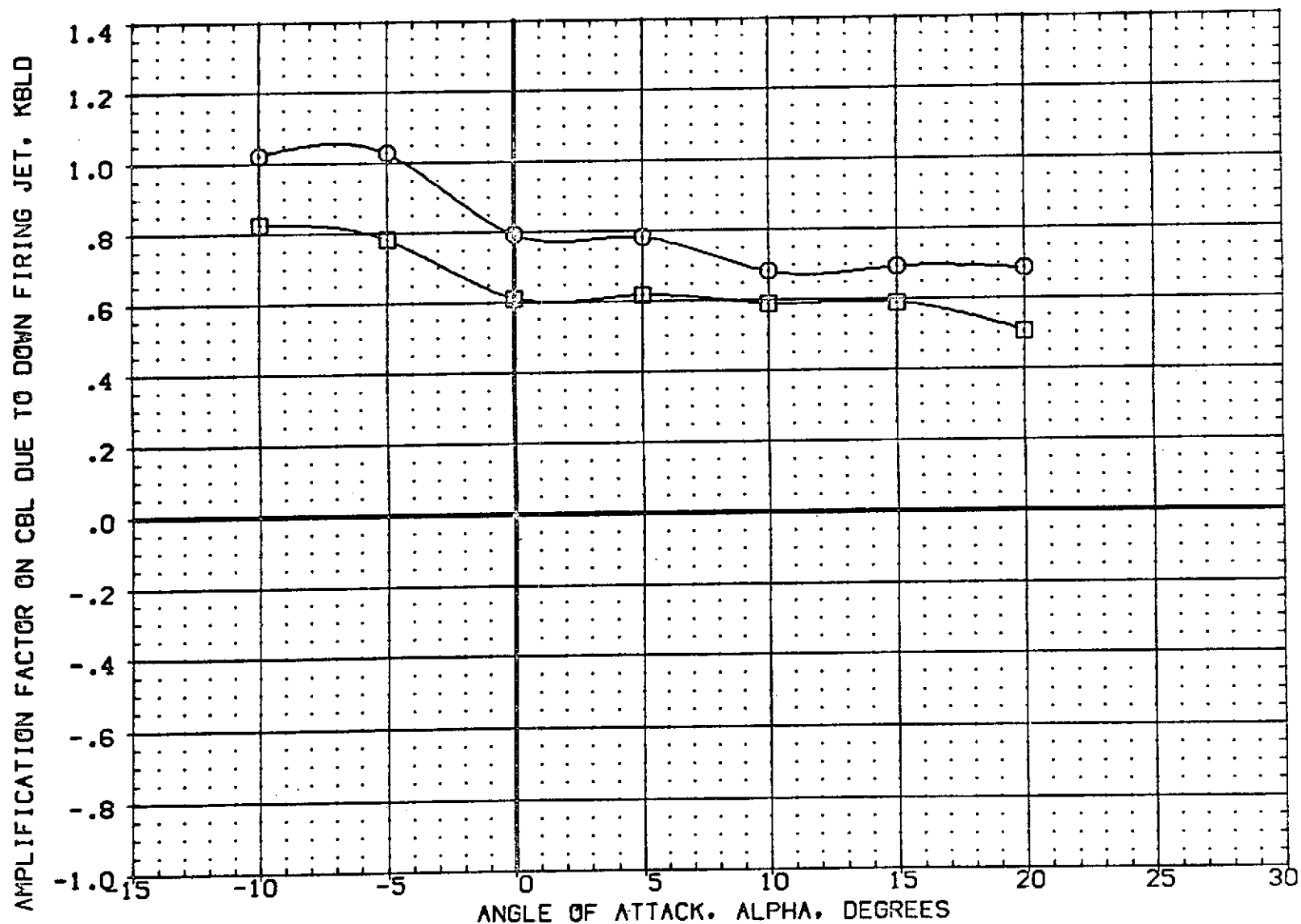


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPOSRK	REFERENCE INFORMATION	
(CH1021) ○	IA-60 CFHT109 MODEL 32-0T (0 T)N49 PITCH DOWN LH	158.000	-20.000	.000	.000	SREF	38.7360 SQ. IN.
(CH1013) □	IA-60 CFHT109 MODEL 32-0T (0 T)N49 PITCH DWN LH	158.000	.000	.000	.000	LREF	4.7480 INCHES
						BREF	9.3670 INCHES
						XGRP	7.3660 INCHES
						YGRP	.0000 INCHES
						ZGRP	.8940 INCHES
						SCALE	.0100 SCALE

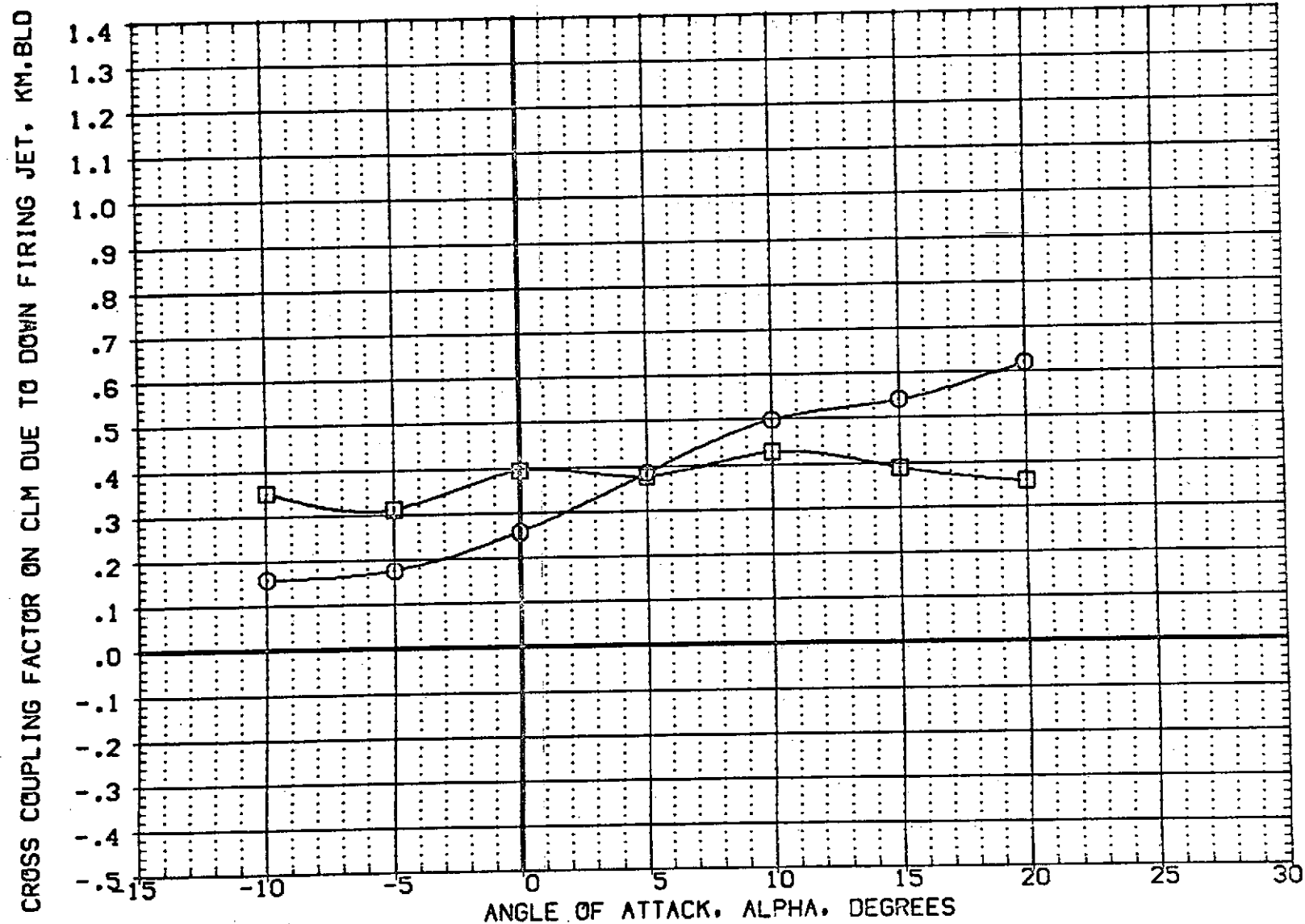


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF  
 (A)MACH = 10.33



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCPCS	ELEVON	AILRON	SPDBRK	REFERENCE INFORMATION		
(CH1021)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DOWN LH	159.000	-20.000	.000	.000	SREF	38.7360	50.1N.
(CH1013)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DWN LH	158.000	.000	.000	.000	LREF	4.7460	INCHES
						BREF	9.3570	INCHES
						XMRP	7.3380	INCHES
						YMRP	.0000	INCHES
						ZMRP	.0040	INCHES
						SCALE	.0100	SCALE

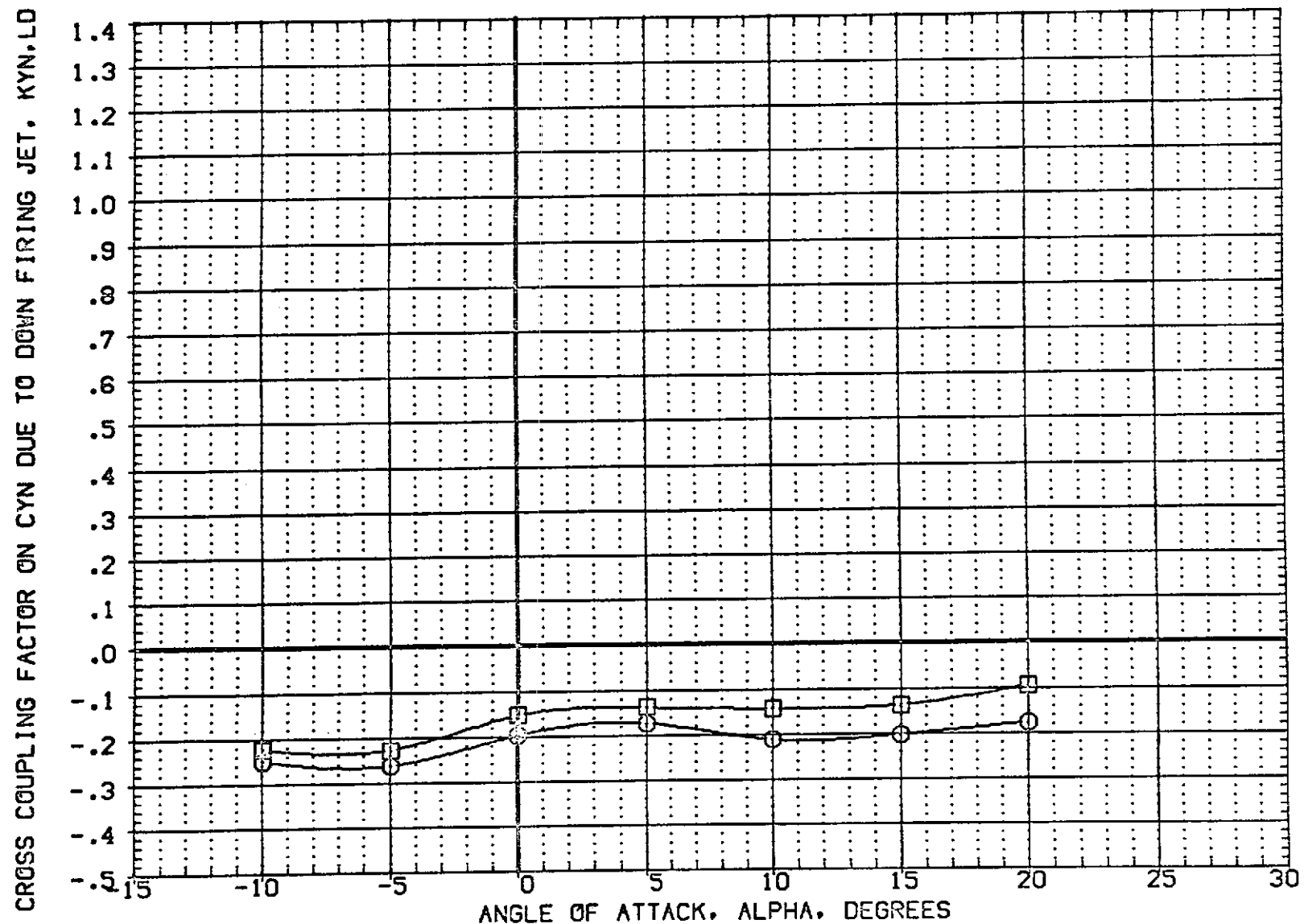


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC5	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION	
(CH1021)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DOWN LH	153.000	-20.000	.000	.000	SREF	39.7360 SQ. IN.
(CH1013)	1A-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DWN LH	159.000	.000	.000	.000	LREF	4.7490 INCHES
						BREF	9.3670 INCHES
						XMRP	7.3600 INCHES
						YMRP	.0000 INCHES
						ZMRP	.0040 INCHES
						SCALE	.0100 SCALE

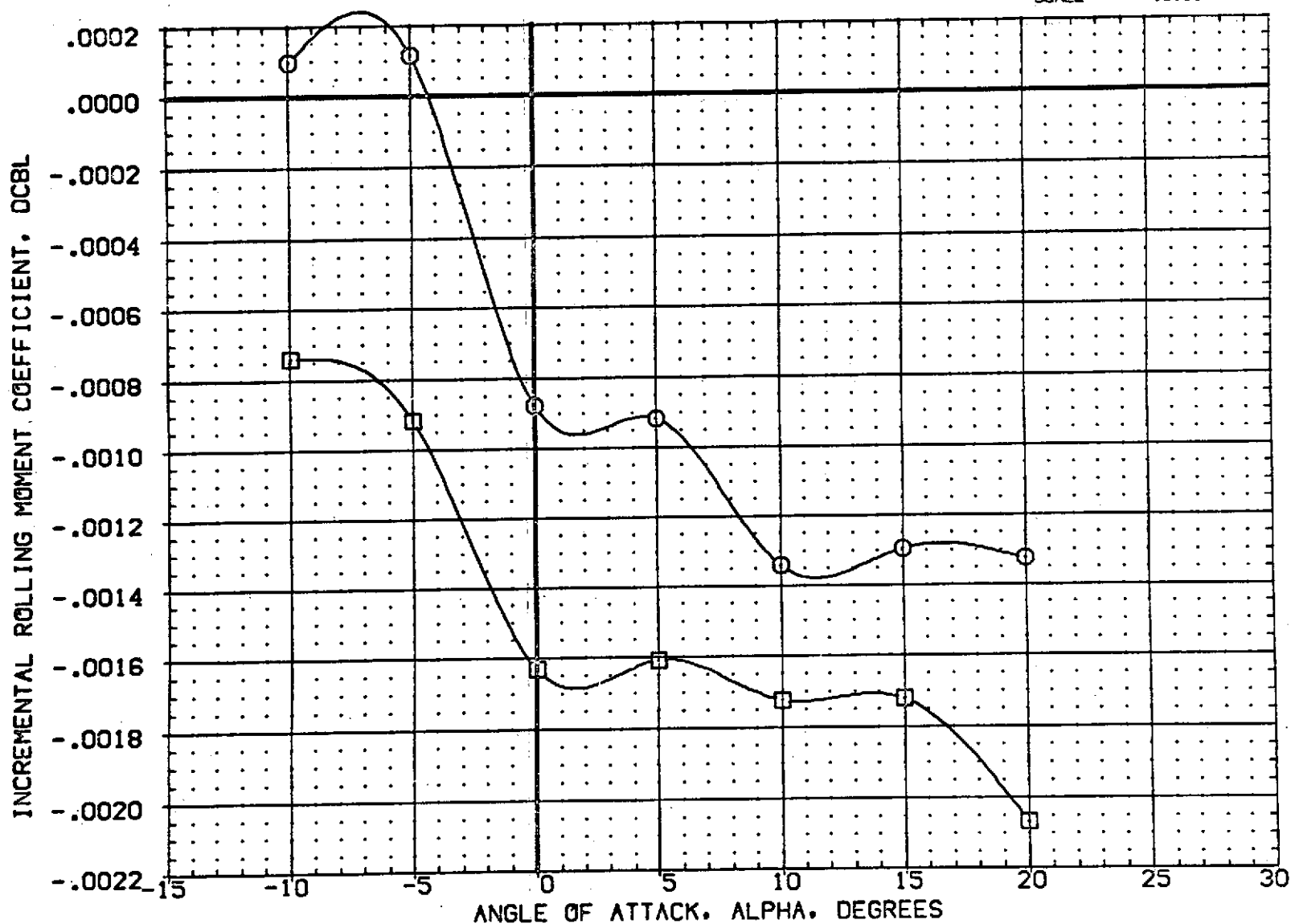


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOSRK	REFERENCE INFORMATION
(CH1021)	IA-60 CFHTIC3 MODEL 32-OT (0 T)N49 PITCH DOWN LH	153.000	-20.000	.000	.000	SREF 33.7380 SQ. IN.
(CH1013)	IA-60 CFHTIC3 MODEL 32-OT (0 T)N49 PITCH DWN LH	153.000	.000	.000	.000	LREF 4.7400 INCHES
						EREF 9.3370 INCHES
						XREF 7.6600 INCHES
						YREF .0000 INCHES
						ZREF .0010 INCHES
						SCALE .0100 SQ/LE

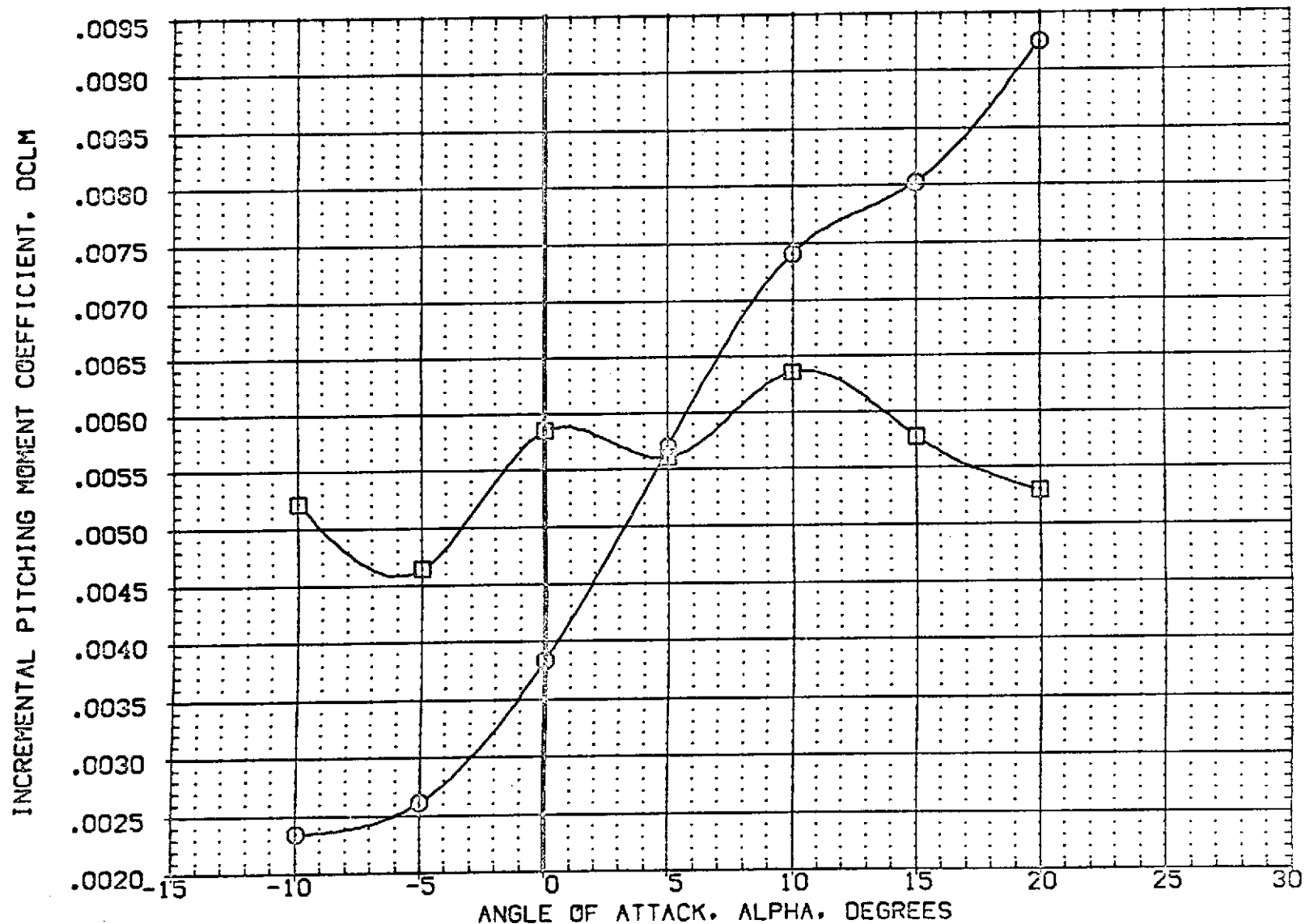


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(CH1021)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	159.000	-20.000	.000	.000	SREF	39.7360 50. IN.
(CH1013)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH UP LH	159.000	.000	.000	.000	LREF	4.7480 INCHES
						BREF	9.3370 INCHES
						MREF	7.3520 INCHES
						YREF	.0000 INCHES
						ZREF	.5340 INCHES
						SCALE	.0100 SCALE

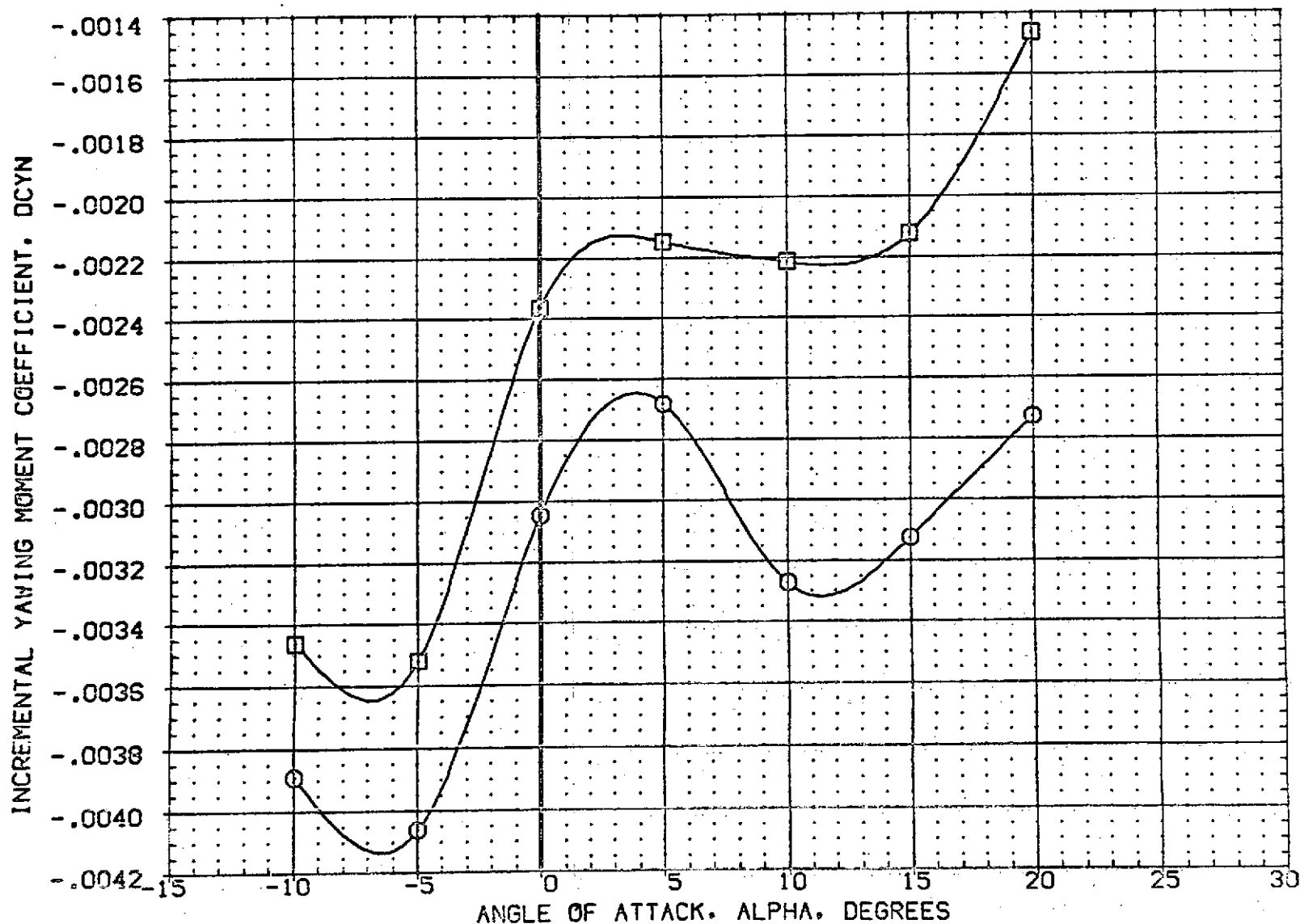


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPOBRK	REFERENCE INFORMATION	
(RH121N)	IA-60 CFHT108 MODEL 32-0T (0 T)N49 PITCH DOWN LH	158.000	-20.000	.000	.000	SREF	39.7330 SQ. IN.
(RH112N)	IA-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DWN LH	158.000	.000	.000	.000	LREF	4.7400 INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.030	.000	BREF	9.5570 INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XREF	7.3330 INCHES
						YREF	.0000 INCHES
						ZREF	.0000 INCHES
						SCALE	.0100 SCALE

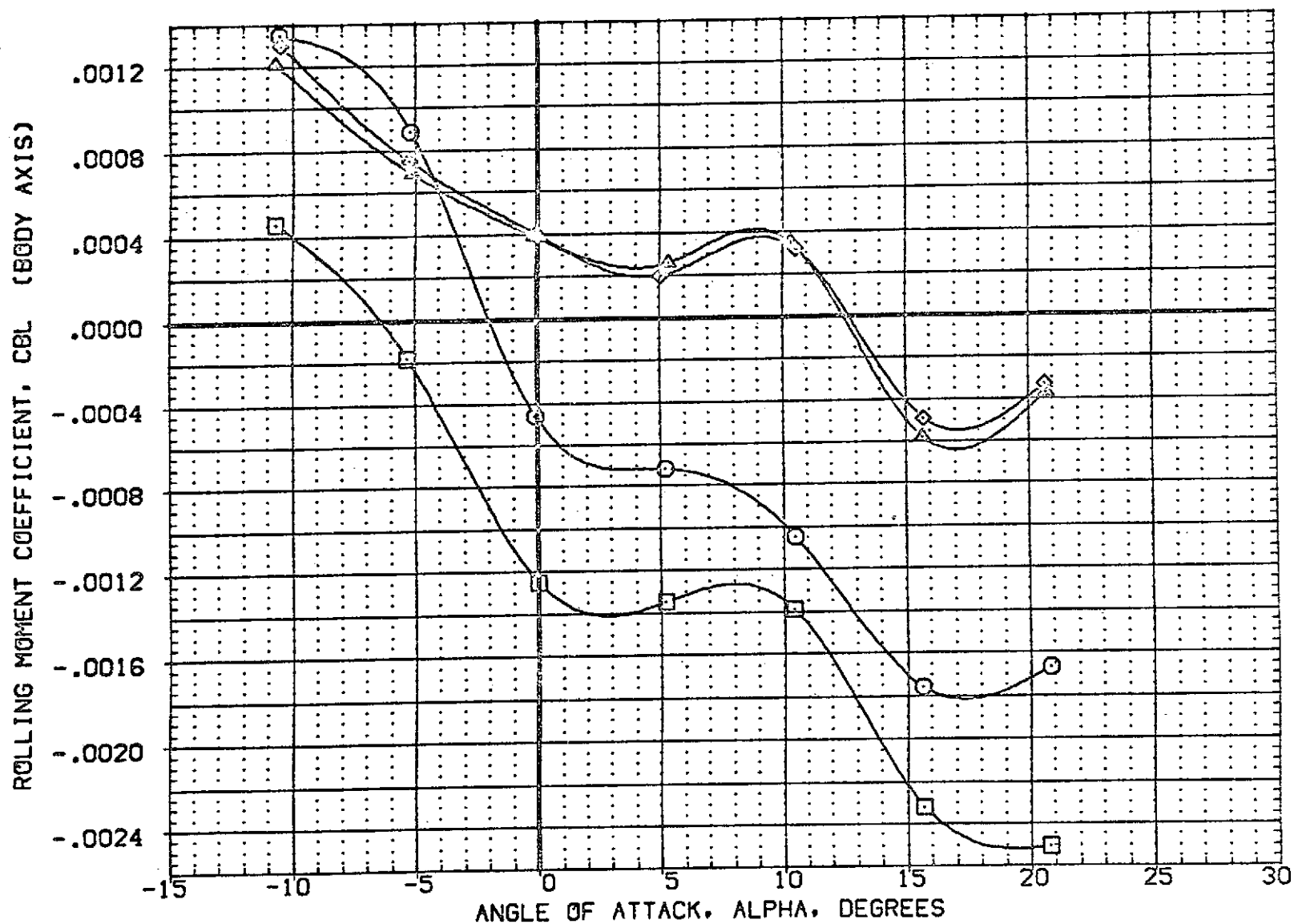


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRC	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(RH12IN)	IA-60 CFHT103 MODEL 32-0T (0 T)M49 PITCH DOWN LH	158.000	-20.000	.000	.000	SREF	38.7360	50.1N.
(RH112N)	IA-60 CFHT103 MODEL 32-0T (0 T)M49 PITCH DYN LH	158.000	.000	.000	.000	LREF	4.7480	INCHES
(RH103F)	IA-60 CFHT103 MODEL 32-0T (0 T)N31 RCS OFF	.000	-20.000	.000	.000	BREF	9.3570	INCHES
(RH102F)	IA-60 CFHT103 MODEL 32-0T (0 T)N32 RCS OFF	.000	.000	.000	.000	XMRP	7.3580	INCHES
						YMRP	.0000	INCHES
						ZMRP	.9940	INCHES
						SCALE	.0100	SCALE

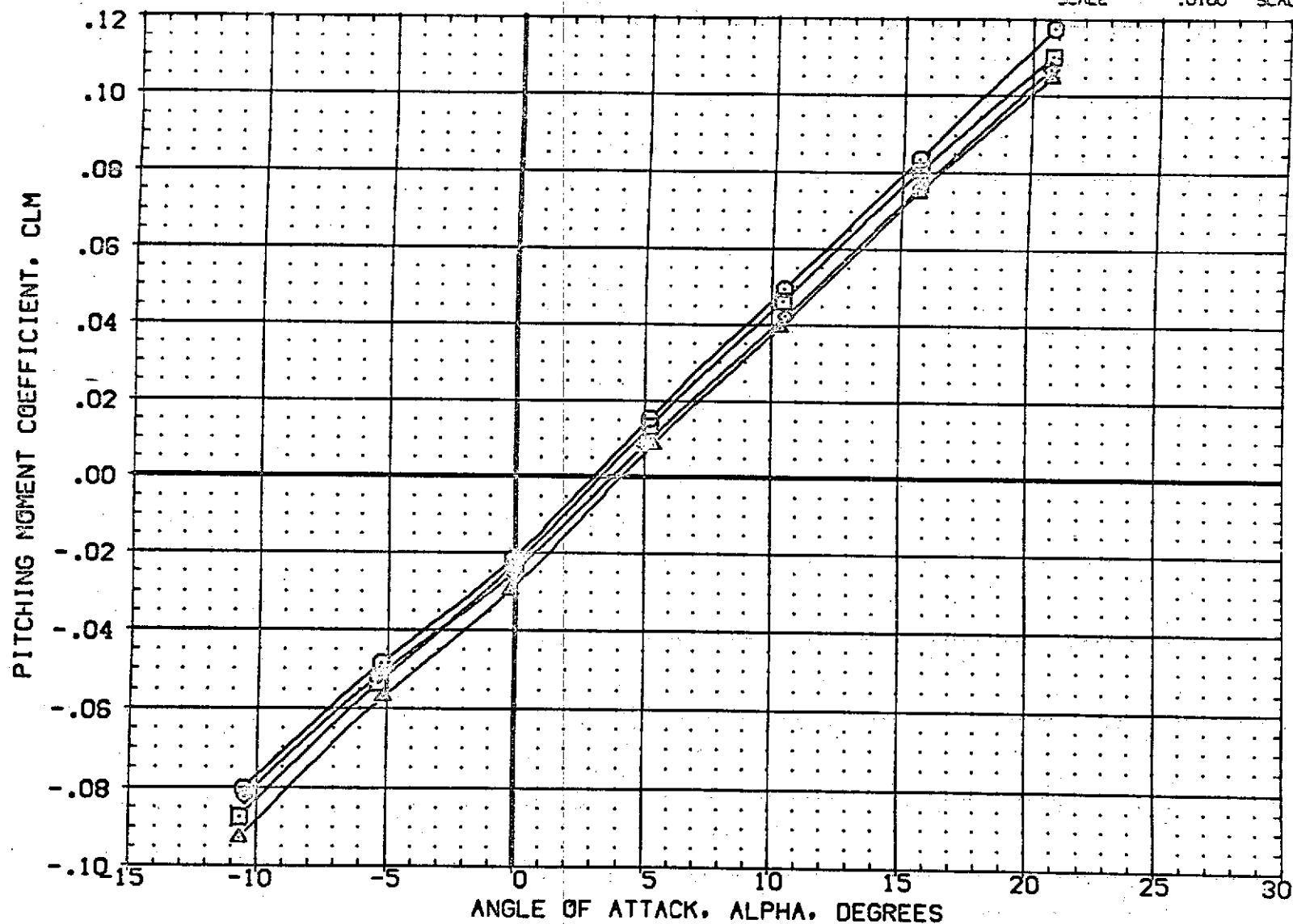


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF

(A)MACH = 10.33

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PCRS	ELEVON	AILRON	SPDRK	REFERENCE INFORMATION		
(R4121N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DOWN LH	159.000	-20.000	.000	.000	SREF	33.7360	SQ. IN.
(R4113N)	1A-60 CFHT103 MODEL 32-0T (0 T)N49 PITCH DYN LH	159.000	.000	.000	.000	LREF	4.7480	INCHES
(R4100F)	1A-60 CFHT103 MODEL 32-0T (0 T)N51 RCS OFF	.000	-20.000	.000	.000	BREF	9.3570	INCHES
(R4102F)	1A-60 CFHT103 MODEL 32-0T (0 T)N52 RCS OFF	.000	.000	.000	.000	XREF	7.3300	INCHES
						YREF	.0000	INCHES
						ZREF	.9910	INCHES
						SCALE	.0100	SCALE

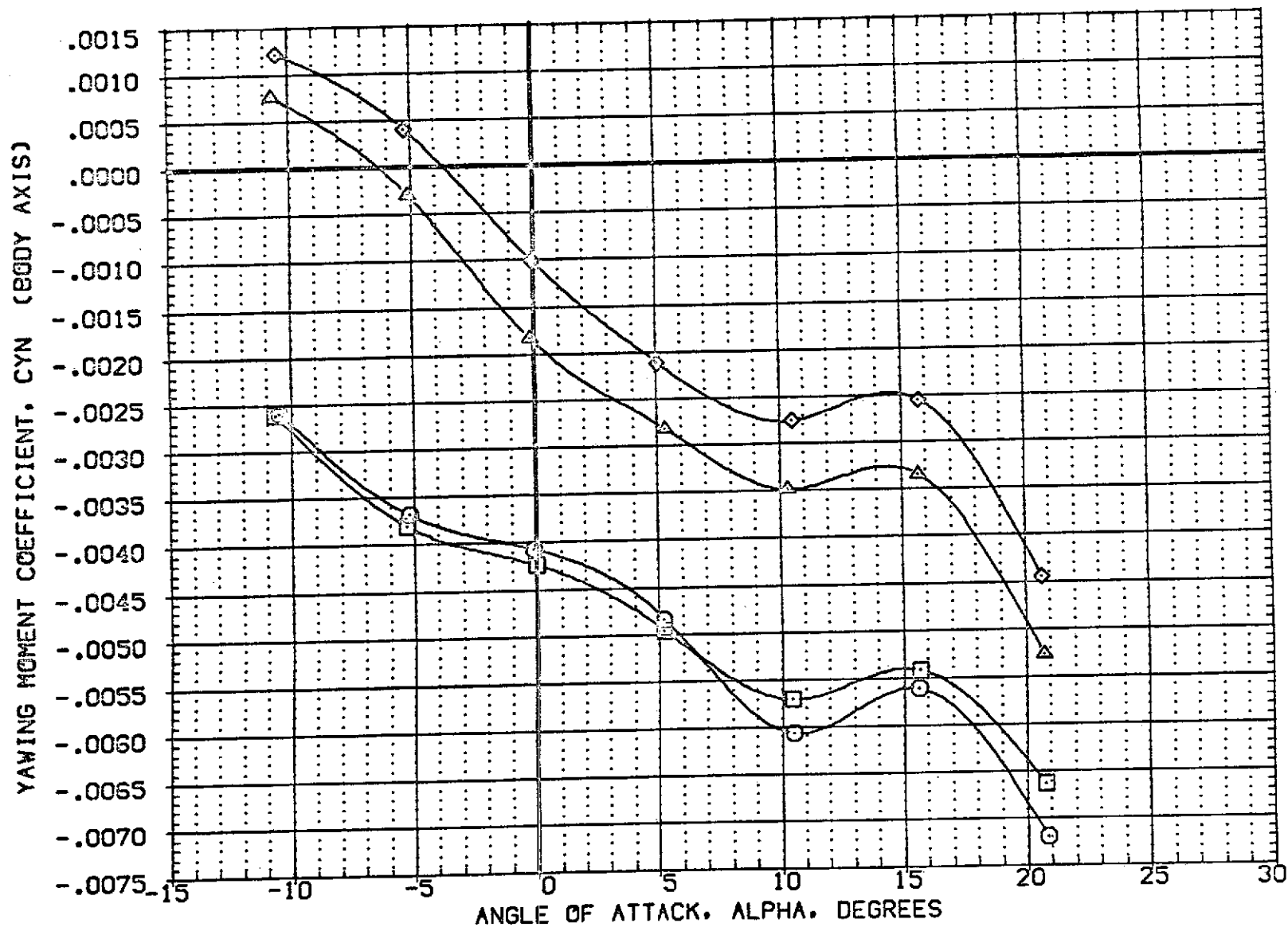


FIG 23 EFFECT OF ELEVON DEFLECTION ON N49 JET INTERACTION, QSIM = 20 PSF  
(A)MACH = 10.33

APPENDIX  
TABULATED SOURCE DATA

Tabulations of plotted data are available on request from  
Data Management Services.



TABULATED SOURCE DATA - 1A60

PAGE 1

RC8 OFF

(RH101F) ( 14 MAR 74 )

## REFERENCE DATA

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEVON	=	15.000
AILRON	=	.000	BDCLAP	=	.000
SPCBRK	=	.000			

RUN NO. 3/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

RCS OFF

(RH102F) ( 14 MAR 74 )

## REFERENCE DATA

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEVON	=	.000
AILRON	=	.000	BDFLAP	=	.000
SPCBRK	=	.000			

RUN NO. 227 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

(RH103F) ( 14 MAR 74 )

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEVON	=	-20.000
AILRON	=	.000	BCFLAP	=	.000
SPDRK	=	.000			

RUN NO. 30/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

(RH104F) ( 14 MAR 74 )

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEVON	=	.000
AIRLON	=	15.000	BCFLAP	=	.000
SFOBRK	=	.000			

RUN NO. 12/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

(RH105F) ( 14 MAR 74 )

### PARAMETRIC DATA

BETA	=	.000	Q(P3F)	=	150.000
PCRC5	=	.000	ELEVON	=	.000
AILRON	=	-15.000	BDFLAP	=	.000
SPDBRK	=	.000			

[illegible]

(RH106F) ( 14 MAR 74 )

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEWON	=	.000
AILRON	=	5.000	BCFLAP	=	.000
SPDBRK	=	.000			

[illegible]

(RH107F) ( 14 MAR 74 )

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	.000	ELEVON	=	-20.000
AILRON	=	10.000	BDFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 53/ 0 RN/L = 1.02 GRADIENT INTERVAL = -5.00% 5.00

[illegible]

(RH108F) ( 14 MAR 74 )

### PARAMETRIC DATA

```

BETA      =      .000    Q (FSF) =    150.000
PCRCS     =      .000    ELEVON  =      .000
AIIRON    =      .000    BDFLAP  =      .000
SPOBRK    =    55.000

```

RUN NO. 42/ D RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT IO T)N51 YAW

(RH101N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 30.7360 SQ.IN.      XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES      YMRP = .0000 INCHES
OREF = 9.3670 INCHES      ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	179.000	ELEVON	=	15.000
AILRON	=	.000	BDFLAP	=	.000
SPCRK	=	.000			

RUN NO. 4/0 RN/L = .97 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N51 YAW

(RH102N) ( 18 MAR 74 )

## REFERENCE DATA

```
SREF = 30.7360 SQ.IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	504.000	ELEVON	=	15.000
AILRON	=	.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 5/0 RN/L = .99 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN

(RH103N) ( 18 MAR 74 )

### REFERENCE DATA

```
SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES YMRP = .0000 INCHES
DREF = 9.3670 INCHES ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	167.000	ELEVON	=	15.000
AILRON	=	.000	BDCLAP	=	.000
SPDRK	=	.000			

RUN NO. 6/0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN

(RH104N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
LREF = 4.7480 INCHES YMRP = .0000 INCHES  
BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA	=	.000	Q(PSF)	=	150.000
PCRC5	=	469.000	ELEVON	=	15.000
AILRON	=	.000	BDFLAP	=	.000
SFCBRK	=	.000			

RUN NO. 7/0 RN/L = .97 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

TABULATED SOURCE DATA - 1A50

(RH:DSN) ( 18 MAR 74 )

1A-60 CFHT108 MODEL 32-OT (O T) N49 N52 ROLL

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC8	=	158.000	ELEVON	=	15.000
AILRON	=	.000	BDCLAP	=	.000
SPCRK	=	.000			

RUN NO. 8/0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49 N52 ROLL

(RH105N) ( 18 MAR 74 )

### PARAMETRIC DATA

```

BETA      =      .000      Q (PSF) =    150.000
PCRCS     =    446.000     ELEVON  =     15.000
AILRON    =      .000     BDFLAP  =      .000
SPDBRK    =      .000

```

RUN NO. 9/ 0 RN/L = 1.02 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

LA-60 CFHT108 MODEL 32-OT (O T) N52

## PITCH UP

(RH107N) ( 18 MAR 74 )

## REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	158.000	ELEVON	=	15.000
AILRON	=	.000	BDFLAP	=	.000
SPCRK	=	.000			

RUN NO. 10/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N52

PITCH UP

(RH108N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES    YMRP = .0000 INCHES
BREF = 9.3670 INCHES    ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	446.000	ELEVON	=	15.000
AIRLON	=	.000	BDFLAP	=	.000
SFCBRK	=	.000			

RUN NO. 11/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]



1A-60 CFHT108 MODEL 32-07 (O T) N52

## PITCH UP

(RH109N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ.IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES    YMRP = .0000 INCHES
BREF = 9.3670 INCHES    ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q(PSF)	=	150.000
PCRC5	=	158.000	ELEV0N	=	.000
AILRON	=	.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 23/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N52

## PITCH UP

(ZH110N) ( 12 APR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

```

BETA      =      .000      Q (PSF) =      150.000
PCRC5     =      446.000    ELEVON =      .000
AILRON    =      .000      BCFLAP =      .000
SPDBRK    =      .000

```

RUN NO. 24/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49 N52 ROLL

(RH111N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRCs = 158.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 20/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.472	-.00939	-.28078	.21798	-.08492	-.00080	.00065	-.00038	-.23649	.26538	158.25411
10.330	-5.248	-.02098	-.17763	.18802	-.05211	-.00229	.00116	-.00296	-.15969	.20348	158.29615
10.330	-.061	-.10506	-.08806	.15589	-.02192	-.00667	.00663	-.01861	-.08790	.15598	158.05391
10.330	5.286	-.09076	-.00184	.13398	.01573	-.00655	.00449	-.01819	-.01418	.13324	157.95987
10.330	10.487	-.00718	.10406	.11698	.04578	-.00378	-.00194	-.00710	.08103	.13397	157.70767
10.330	15.613	-.00340	.20886	.10772	.07935	-.00364	-.00273	-.00562	.17216	.15996	157.80169
10.330	20.779	-.00477	.34875	.10446	.11042	-.00359	-.00389	-.01296	.28900	.22139	157.55941
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

1A-60 CFHT108 MODEL 32-OT (O T)N49 N52 ROLL

(RH112N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRCs = 446.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 21/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.295	-.09400	-.31495	.19499	-.07310	-.01100	.01041	-.01087	-.27503	.24814	446.65289
10.330	-4.900	-.25108	-.21172	.16488	-.03839	-.01739	.02066	-.03415	-.19686	.18236	445.46209
10.330	.087	-.10581	-.13523	.13948	-.01097	-.01135	.00746	-.01385	-.13545	.13928	445.22373
10.330	5.481	-.02505	-.04154	.11704	.02477	-.00814	-.00001	-.00375	-.05253	.11254	445.26577
10.330	10.818	-.01714	.06264	.10135	.05699	-.00719	-.00175	-.00374	.04250	.11130	446.13432
10.330	15.729	-.03833	.16496	.08938	.08864	-.00806	-.00132	-.00424	.13456	.13075	446.07835
10.330	20.860	-.04558	.31612	.08857	.11695	-.00749	-.00218	-.01122	.26386	.19534	446.03631
GRADIENT		.02913	.01534	-.00509	.00550	.00121	-.00265	.00407	.01231	-.00864	-.04780

1A-60 CFHT108 MODEL 32-OT (O TIN49 PITCH DWN LH

(RH113N) ( 18 MAR 74 )

## REFERENCE DATA

```
SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES YMRP = .0000 INCHES
BREF = 9.3670 INCHES ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	158.000	ELEVON	=	.000
AILRON	=	.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 26/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49 PITCH DWN LH

(RH114N) ( 18 MAR 74 )

## REFERENCE DATA

```
SREF = 38.7360 SQ. IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES     YMRP = .0000 INCHES
BREF = 9.3670 INCHES     ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	446.000	ELEVON	=	.000
AILRON	=	.000	BDFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 27/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N51 YAW LH

{RH115N} ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ.IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES    YMRP = .0000 INCHES
BREF = 9.3670 INCHES    ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	179.000	ELEVON	=	.000
AILRON	=	.000	BDFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 28/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N51 YAW LH

(RH116N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES     YMRP = .0000 INCHES
BREF = 9.3670 INCHES     ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRCS	=	504.000	ELEVON	=	.000
AILRON	=	.000	BDFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 29/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

LA-65 CFHT108 MODEL 32-OT (O T)N51 YAW LH

(RH117N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES     YMRP = .0000 INCHES
BREF = 9.3670 INCHES     ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	179.000	ELEVON	=	-20.000
AILRON	=	.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 31/ 0 RN/L = 1.02 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N51 YAW LH

(RH118N) ( 18 MAR 74 )

## REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	504.000	ELEVON	=	-20.000
AILRON	=	.000	BDCLAP	=	.000
SPDBRK	=	.000			

RUN NO. 32/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN

(RH119N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q (PSF) = 150.000  
 PCRCs = 167.000 ELEVON = -20.000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 34/ 0 RN/L = 1.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.336	-.00245	-.31624	.21437	-.07193	.00136	.00020	-.00007	-.27265	.26763	186.52662
10.330	-5.024	.00391	-.19756	.18228	-.04188	.00097	-.00050	-.00349	-.18084	.19888	183.93288
10.330	.032	.02074	-.09676	.15039	-.01415	.00028	-.00197	-.00377	-.09685	.15033	184.85741
10.330	5.377	.02695	-.00482	.12520	.02205	.00039	-.00281	-.00633	-.01653	.12419	184.79210
10.330	10.711	.03541	.09771	.10777	.05621	.00038	-.00366	-.00748	.07597	.12405	182.30151
10.330	15.758	.03367	.19142	.09399	.08959	-.00038	-.00381	-.00823	.15870	.14245	181.91573
10.330	20.988	.04523	.33569	.09228	.12125	-.00015	-.00551	-.01268	.28036	.20640	181.40001
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

IA-60 CFHT108 MODEL 32-OT (O T)N49 N50 PITCH DWN

(RH120N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q (PSF) = 150.000  
 PCRCs = 469.000 ELEVON = -20.000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 35/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.256	.00852	-.36486	.18802	-.05483	.00072	-.00006	.00339	-.32555	.24998	482.12857
10.330	-4.946	-.00316	-.25730	.15360	-.02504	.00032	.00005	-.00422	-.24310	.17522	483.79752
10.330	.235	.02195	-.15349	.12254	.00371	-.00007	-.00206	-.00288	-.15400	.12191	484.90879
10.330	5.745	.02800	-.05778	.09638	.04266	-.00002	-.00289	-.00574	-.06714	.09011	483.88852
10.330	10.831	.02082	.04058	.07575	.07255	-.00101	-.00182	-.00029	.02562	.08203	482.83786
10.330	16.022	.03714	.14459	.06104	.10337	-.00051	-.00421	-.00704	.12212	.09857	482.52519
10.330	21.213	.04371	.29989	.06107	.13412	-.00061	-.00541	-.01005	.25747	.16544	482.44115
	GRADIENT	.00485	.02004	-.00599	.00555	-.00008	-.00041	.00026	.01720	-.01029	.21449

TABULATED SOURCE DATA - 1A60

1A-69 CFHT108 MODEL 32-OT (O T)N49 PITCH DOWN LH

(RH121N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF =      38.7360 SQ. IN.   XMRP =      7.3680 INCHES
LREF =      4.7480 INCHES    YMRP =      .0000 INCHES
BREF =      9.3670 INCHES    ZMRP =      .9940 INCHES
SCALE =      .0000 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC	=	150.000	ELEVON	=	-20.000
AILRON	=	.000	BCFLAP	=	.000
SPCBRK	=	.000			

RUN NO. 36/0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49 PITCH DOWN LH

(RH122N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES    YMRP = .0000 INCHES
BREF = 9.3670 INCHES    ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

```

BETA      =      .000      Q (PSF) =    150.000
PCRC5     =    446.000     ELEVON =    -20.000
AILRON    =      .000     BDFLAP =      .000
SPDBRK    =      .000

```

RUN NO. 37/0 RN/L = .99 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH123N) ( 10 MAR 74 )

## REFERENCE DATA

```

SREF = 30.7360 SQ.IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

## PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	150.000	ELEVON	=	-20.000
AILRON	=	.000	BCFLAP	=	.000
SPCRK	=	.000			

RUN NO. 38/ 0 RN/L = .99 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH124N) ( 18 MAR 74 )

### REFERENCE DATA

```
SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES YMRP = .0000 INCHES
BREF = 9.3670 INCHES ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

## PARAMETRIC DATA

```

BETA      =      .000      Q (PSF) =    150.000
PCRCS     =    446.000     ELEVON =   -20.000
AILRON    =      .000     BOFLAP =      .000
SPDBRK    =      .000

```

RUN NO. 39/ 0 RN/L = .99 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]



1A-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP RH

(RH125N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ.IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q(PSF)	=	150.000
PCRCS	=	158.000	ELEVON	=	-20.000
AILRON	=	.000	BDFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 40/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP RH

(RH126N) ( 18 MAR 74 )

## REFERENCE DATA

```
SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRCS	=	446.000	ELEVON	=	-20.000
AILRON	=	.000	BDCLAP	=	.000
SPOBRK	=	.000			

RUN NO. 41/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH127N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(P5F) = 150.000  
 PCRC5 = 158.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = 55.000

RUN NO. 43/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRC5
10.330	-10.463	-.06575	-.29610	.23585	-.07887	-.00391	.00612	-.01087	-.24835	.28570	158.78053
10.330	-5.222	-.07234	-.18688	.20116	-.04736	-.00538	.00623	-.01224	-.16780	.21733	158.76050
10.330	-.071	-.11461	-.09902	.16665	-.01862	-.00760	.00819	-.02155	-.09881	.16677	158.77051
10.330	5.169	-.08098	-.00745	.14070	.01694	-.00680	.00459	-.01866	-.02010	.13946	158.49836
10.330	10.434	.00670	.10284	.12008	.04671	-.00368	-.00228	-.00721	.07939	.13672	158.58039
10.330	15.654	.02300	.21275	.11048	.08235	-.00313	-.00402	-.00522	.17505	.16379	158.48836
10.330	20.824	.01068	.36148	.10813	.11424	-.00354	-.00436	-.01317	.29942	.22957	158.43430
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH128N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(P5F) = 150.000  
 PCRC5 = 446.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = 55.000

RUN NO. 44/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRC5
10.330	-10.199	-.23072	-.33594	.22169	-.06134	-.01784	.02255	-.03460	-.29138	.27767	447.35341
10.330	-4.893	-.33827	-.23042	.19129	-.02648	-.02224	.02871	-.04769	-.21327	.21025	448.01171
10.330	.127	-.08806	-.13766	.14788	-.01022	-.01103	.00691	-.01284	-.13798	.14757	448.13804
10.330	5.399	-.01813	-.04194	.12381	.02613	-.00836	.00025	-.00330	-.05341	.11932	445.67224
10.330	10.628	-.00305	.06146	.10786	.05835	-.00693	-.00193	-.00273	.04052	.11734	446.28873
10.330	15.864	-.01957	.17414	.09559	.09308	-.00761	-.00183	-.00376	.14137	.13955	446.27478
10.330	21.042	-.02865	.33097	.09442	.12204	-.00730	-.00261	-.01077	.27500	.20696	446.55489
	GRADIENT	.04984	.01848	-.00865	.00324	.00223	-.00434	.00694	.01500	-.01249	.02516

1A-6D CFMT108 MODEL 32-OT (O T)N52 PITCH UP

(RH129N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q(P5F)	=	150.000
PCRC5	=	158.000	ELEVON	=	.000
ATLRON	=	.000	BDFLAP	=	.000
SPDBRK	=	55.000			

RUN NO. 45/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N52 PITCH UP

(RH13DN) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.   XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES     YMRP = .0000 INCHES
BREF = 9.3670 INCHES     ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	446.000	ELEVON	=	.000
AILRON	=	.000	BDCLAP	=	.000
SPDBRK	=	55.000			

RUN NO. 46/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH131N) ( 12 APR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(P5F) = 150.000  
 PCRCs = 158.000 ELEVON = .000  
 AILRON = -15.000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 48/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.619	.01027	-.28953	.22634	-.08802	-.00356	.00052	-.00042	-.24286	.27582	158.73850
10.330	-5.373	-.00258	-.18133	.19441	-.05493	-.00413	.00101	-.00248	-.16233	.21053	158.40432
10.330	-.046	-.09541	-.08523	.16016	-.02428	-.00801	.00685	-.01884	-.08510	.16023	158.32029
10.330	5.250	-.09225	.00341	.13803	.01378	-.00830	.00525	-.01945	-.00923	.13777	158.16219
10.330	10.442	-.01636	.11303	.12102	.04397	-.00594	-.00090	-.00835	.08923	.13950	158.18214
10.330	15.708	-.01415	.22450	.11238	.07972	-.00637	-.00217	-.00685	.18569	.16896	157.84593
10.330	20.663	-.04708	.36535	.11093	.10798	-.00858	-.00184	-.01379	.30270	.23272	157.65793
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

IA-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH132N) ( 12 APR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(P5F) = 150.000  
 PCRCs = 446.000 ELEVON = .000  
 AILRON = -15.000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 49/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.509	-.06622	-.31979	.20432	-.07829	-.01238	.00946	-.00890	-.27717	.25922	447.14326
10.330	-4.979	-.21561	-.21112	.17236	-.04174	-.01803	.01917	-.02932	-.19536	.19003	447.18521
10.330	.116	-.09774	-.12982	.14559	-.01343	-.01282	.00740	-.01531	-.13012	.14532	446.98910
10.330	5.385	-.02222	-.03430	.12301	.02273	-.00991	.00032	-.00461	-.04569	.11924	447.61938
10.330	10.620	-.02100	.07215	.10767	.05442	-.00936	-.00126	-.00400	.05107	.11912	446.63891
10.330	15.778	-.05101	.18233	.09566	.08823	-.01039	-.00031	-.00595	.14945	.14164	446.55485
10.330	20.940	-.08711	.34196	.09583	.11501	-.01242	-.00023	-.01182	.28513	.21172	446.82102
	GRADIENT	.02313	.01596	-.00525	.00556	.00102	-.00231	.00275	.01280	-.00878	-.03849

DATE 23 APR 74

TABULATED SOURCE DATA - 1A60

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1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH133N) ( 12 APR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRCs = 158.000 ELEVON = .000  
 AILRON = 5.000 BCFLAP = .000  
 SPOBRK = .000

RUN NO. 51/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.481	-.00354	-.27533	.21571	-.08296	-.00002	.00108	.00078	-.23150	.26220	158.39434
10.330	-5.304	-.01478	-.17535	.18622	-.05101	-.00196	.00193	-.00219	-.15739	.20163	158.48836
10.330	-.120	-.09340	-.08643	.15449	-.02188	-.00617	.00714	-.01707	-.08611	.15467	158.48836
10.330	5.231	-.08111	-.00264	.13256	.01531	-.00626	.00500	-.01733	-.01471	.13177	158.37436
10.330	10.430	.00229	.10158	.11612	.04468	-.00316	-.00146	-.00641	.07888	.13259	158.61442
10.330	15.627	.01342	.20837	.10691	.07842	-.00276	-.00250	-.00451	.17187	.15908	158.65644
10.330	20.737	.01752	.34676	.10433	.10870	-.00204	-.00374	-.01183	.28735	.22035	158.61442
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH134N) ( 12 APR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRCs = 446.000 ELEVON = .000  
 AILRON = 5.000 BCFLAP = .000  
 SPOBRK = .000

RUN NO. 52/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.300	-.09141	-.31122	.19405	-.07244	-.00970	.01082	-.01005	-.27151	.24657	445.54638
10.330	-4.975	-.22124	-.21037	.16399	-.03854	-.01585	.01979	-.02932	-.19536	.18162	445.88255
10.330	.041	-.10918	-.13306	.13902	-.01031	-.01102	.00828	-.01313	-.13316	.13892	446.39276
10.330	5.403	-.01634	-.04204	.11628	.02463	-.00766	.00057	-.00228	-.05280	.11181	446.16277
10.330	10.555	-.00614	.05742	.10160	.05536	-.00656	-.00125	-.00218	.03783	.11040	446.52689
10.330	15.763	-.02571	.16606	.08978	.08820	-.00736	-.00089	-.00330	.13542	.13151	446.61093
10.330	20.856	-.02546	.31134	.08838	.11558	-.00606	-.00186	-.01009	.25948	.19343	446.17670
	GRADIENT	.02413	.01541	-.00498	.00553	.00096	-.00229	.00323	.01240	-.00851	.08377

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH135N) ( 12 APR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	158.000	ELEVON	=	-20.000
AILRON	=	10.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 54/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(ZH136N) ( 12 APR 74 )

## REFERENCE DATA

```
SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3679 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE
```

## PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	446.000	ELEVON	=	-20.000
AILRON	=	10.000	BDFLAP	=	.000
SFCBRK	=	.000			

RUN NO. 55/ 0 RN/L = 1.01 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

1A-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH137N) ( 18 MAR 74 )

## REFERENCE DATA

```

SREF = 38.7360 SA,IN. XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES YMRP = .0000 INCHES
BREF = 9.3670 INCHES ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	158.000	ELEVON	=	.000
AILRON	=	15.000	BCFLAP	=	.000
SPDBRK	=	.000			

RUN NO. 13/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49N52 ROLL

(RH138N) ( 18 MAR 74 )

### REFERENCE DATA

```

SREF = 38.7360 SQ. IN.  XMRP = 7.3680 INCHES
LREF = 4.7480 INCHES  YMRP = .0000 INCHES
BREF = 9.3670 INCHES  ZMRP = .9940 INCHES
SCALE = .0100 SCALE

```

### PARAMETRIC DATA

BETA	=	.000	Q (PSF)	=	150.000
PCRC5	=	446.000	ELEVON	=	.000
AILRON	=	15.000	BCFLAP	=	.000
SFCBRK	=	.000			

RUN NO. 14/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

IA-60 CFHT108 MODEL 32-OT (O T)N49N50 PITCH DWN

(RH139N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRC5 = 167.000 ELEVON = .000  
 AILRON = 15.000 BDFLAP = .000  
 SPDBRK = .000

. 15/ 0 RN/L = .97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRC5
10.330	-10.383	-.02553	-.29388	.20841	-.07664	.00418	.00036	-.00143	-.25150	.25797	167.00773
10.330	-5.062	-.01214	-.18649	.17789	-.04549	.00231	-.00034	-.00388	-.17006	.19365	166.98676
10.330	-.028	.01130	-.08348	.14756	-.01868	.00147	-.00216	-.00371	-.08340	.14760	167.12340
10.330	5.479	.02263	.00526	.12345	.01974	.00166	-.00321	-.00572	-.00655	.12339	167.02879
10.330	10.559	.03624	.10224	.10755	.05008	.00227	-.00420	-.00758	.08080	.12447	167.09782
10.330	15.746	.05083	.20066	.09512	.08373	.00237	-.00521	-.00773	.16732	.14601	167.00782
10.330	20.805	.07772	.34288	.09417	.11085	.00430	-.00690	-.01323	.28708	.20982	167.03933
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

IA-60 CFHT108 MODEL 32-OT (O T)N49N50 PITCH DWN

(RH140N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ.IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q(PSF) = 150.000  
 PCRC5 = 469.000 ELEVON = .000  
 AILRON = 15.000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 17/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRC5
10.330	-10.129	-.02295	-.33807	.17847	-.05760	.00258	.00099	-.00011	-.30141	.23514	467.87638
10.330	-4.933	-.00921	-.24327	.14559	-.02574	.00153	.00003	-.00100	-.22985	.16597	468.61167
10.330	.298	.00563	-.14480	.11489	.00406	.00042	-.00120	-.00133	-.14540	.11414	468.76306
10.330	5.668	.02000	-.05176	.09062	.03966	.00094	-.00272	-.00322	-.06046	.08506	469.22966
10.330	10.834	.03533	.05380	.07479	.07109	.00137	-.00383	-.00456	.03878	.08357	467.25366
10.330	16.060	.03667	.14942	.05905	.09901	.00121	-.00418	-.00565	.12725	.09808	467.85495
10.330	20.998	.06902	.29799	.06942	.12414	.00304	-.00633	-.00943	.25655	.16318	468.01912
	GRADIENT	.00284	.01882	-.00587	.00570	-.00021	-.00024	-.00006	.01614	-.00991	.02894



1A-60 CFHT108 MODEL 32-OT (O T)N49N50 PITCH DWN

(RH141N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q (PSF) = 150.000  
 PCRCs = 167.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 18/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.363	-.01136	-.29366	.20760	-.07757	.00110	.00010	.00005	-.25153	.25704	167.07083
10.330	-5.064	-.00204	-.18563	.17816	-.04601	.00083	-.00096	-.00274	-.16918	.19385	166.81864
10.330	.084	.00562	-.08630	.14779	-.01582	-.00028	-.00153	-.00394	-.08651	.14766	166.59796
10.330	5.459	.01383	.00086	.12384	.02118	.00010	-.00275	-.00624	-.01092	.12336	166.50338
10.330	10.520	.02306	.09746	.10767	.05250	.00024	-.00361	-.00694	.07616	.12366	166.21960
10.330	15.843	.02590	.19518	.09468	.08699	-.00029	-.00414	-.00859	.16192	.14437	166.26164
10.330	20.840	.03000	.33237	.09264	.11425	-.00056	-.00515	-.01258	.27767	.20482	166.24067
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

1A-60 CFHT108 MODEL 32-OT (O T)N49N50 PITCH DWN

(RH142N) ( 18 MAR 74 )

## REFERENCE DATA

SREF = 38.7360 SQ. IN. XMRP = 7.3680 INCHES  
 LREF = 4.7480 INCHES YMRP = .0000 INCHES  
 BREF = 9.3670 INCHES ZMRP = .9940 INCHES  
 SCALE = .0100 SCALE

## PARAMETRIC DATA

BETA = .000 Q (PSF) = 150.000  
 PCRCs = 469.000 ELEVON = .000  
 AILRON = .000 BDFLAP = .000  
 SPDBRK = .000

RUN NO. 19/ 0 RN/L = .98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	PCRCs
10.330	-10.144	.00532	-.34780	.17804	-.05603	-.00032	-.00018	.00472	-.31101	.23651	468.19127
10.330	-4.922	-.01029	-.25146	.14656	-.02462	-.00014	.00004	-.00243	-.23796	.16760	468.59492
10.330	.319	.01268	-.15348	.11634	.00518	-.00019	-.00205	-.00209	-.15413	.11548	469.87286
10.330	5.652	.01431	-.06085	.09172	.04144	-.00035	-.00260	-.00469	-.06959	.08528	467.61542
10.330	10.852	.02251	.04649	.07494	.07365	-.00022	-.00342	-.00556	.03155	.08235	468.51085
10.330	16.108	.02127	.14170	.05931	.10229	-.00070	-.00379	-.00666	.11968	.09630	467.89699
10.330	21.059	.02657	.28630	.05988	.12890	-.00099	-.00480	-.00849	.24566	.15876	468.58228
	GRADIENT	.00438	.01869	-.00577	.00569	-.00001	-.00040	.00006	.01600	-.00994	.24384